Table 2. Type of flare after IS discontinuation in 105 SLE remitted patients.

Type of flare	Number (%)	Severe flare, number (% of all flares)
Arthritis	5 (19.2)	2 (7.7)
Skin manifestations	6 (23.1)	1 (3.9)
Serosal involvement	2 (7.7)	0
Haematological involvement	5 (19.2)	2 (7.7)
Lupus nephritis	8 (30.8)	8 (30.8)
Total	26	13 (50)

Conclusion: In our SLE cohort, the withdrawal of IS therapy in remitted patients did not seem to influence damage progression in the medium-term.

Disclosure of Interests: : None declared

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OP0248

THE IMPACT OF EXERCISE ON HAND FUNCTION AND QUALITY OF LIFE OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A RANDOMIZED CONTROLLED TRIAL

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Background: Systemic Lupus Erythematosus (SLE) has a significant impact on the ability to perform daily activities and patients' quality of life. To date, no studies have examined the effect of exercise on hand function and quality of life of SLE patients.

Objectives: To determine the effect of exercise on hand strength, dexterity and performance of daily activities, and the quality of life of SLE patients.

Methods: A randomized, 24-week follow-up trial was designed. A total of 240 consecutive SLE patients fulfilling the SLICC classification criteria were evaluated. Sixty two patients who met the inclusion criteria [age > 18 years, upper limb arthralgias, DASH (Disabilities of the Arm, Shoulder, and Hand) score > 10 and stable drug regimen for ≥ 3 months], were randomly assigned to the exercise group (n=32) or the routine care (control) group (n=30).

Patients in the exercise group received by the hand therapist a 30 min daily program at home of strengthening and stretching upper limb exercises for 12 weeks. Performance of daily activities was evaluated with the DASH and HAQ questionnaires, the grip and pinch strength with the Jamar dynamometer and pinch gauge tools respectively, the dexterity with the Purdue pegboard test, and the quality of life with the LUPUSQoL questionnaire, at 0, 6, 12 (end of the exercise program) and 24 weeks for both groups. SLE activity and cumulative organ damage were evaluated with the SLEDAI and SLICC/ACR-DI, respectively.

Results: There were no statistically significant differences between two groups in age (p=0.062), sex (p=0.346), disease duration (p=0.065), SLEDAI (p=0.937), SLICC/ACR-DI (p=0.242), number of tender joints (p=0.703), and use of corticosteroids (p=0.640), hydroxychloroquine (p=0.985) or immunosuppressives (p=0.806). Thirty patients (93.75%) from the exercise group completed the 12-week exercise program and 28 (87.5%) were re-evaluated at 24 weeks; 30 patients (100%) of control group completed the 24-week study.

The percent changes of DASH and HAQ scores were significantly lower (improvement) in the exercise group compared to control group at all-time points. Moreover, all percent changes of grip strength, pinch strength hand dexterity and the LupusQoL score were significantly higher in the exercise group compared to control group at all-time points (Table 1).

Table 1. Comparison between groups of percent changes from baseline to 6, 12 and 24 weeks for all parameters.

	Evaluation time (weeks)	Exercise Group	Control Group	P-value
DASH score	6	-33.7 (28.4)	-1.3 (33.8)	<0.001
	12	-43.4 (31.5)	-11.2 (34.5)	<0.001
	24	-51.9 (47.8)	-7.1 (54.1)	<0.001
HAQ score	6	-20 (49.8)	49.77 (39.9)	0.013
	12	-55 (70.4)	-9.72 (42.2)	<0.001
	24	-69.8 (56.3)	-9.13 (60.4)	<0.001
Grip strength (DH)	6	9.9 (32.8)	2.39 (35.5)	0.044
	12	20.9 (43.4)	4.10 (30.2)	<0.001
	24	23.1 (41)	13.51 (36.8)	0.020

Pinch strength (JAW)	6	17.2 (50)	5.98 (37.4)	0.049
	12	27.1 (55.8)	0 (48.5)	0.002
Dexterity (COM)	24	34.2 (57.6)	2.04 (56.7)	<0.001
	6	17.4 (19.4)	0 (18.6)	<0.001
LUPUSQoL score (PH)	12	23.6 (32)	3.13 (31.1)	0.004
	24	22.2 (30.3)	9.55 (22.5)	0.003
	6	9.5 (49.9)	-5.62 (30.5)	0.010
	12	32.5 (53.8)	5.59 (28.4)	<0.001
	24	28.6 (74.8)	2.38 (48.8)	0.002

All values are presented as median (interquartile range). DASH=Disabilities of the Arm, Shoulder, and Hand), HAQ=Health Assessment Questionnaire, LUPUS-QoL=Lupus Quality of Life, PH=physical health domain, DH=dominant hand, JAW=tripoid pinch, COM=combination.

Conclusion: Upper limb exercise, significantly improves hand function and quality of life in SLE patients.

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OP0249

ANTIPHOSPHOLIPID SYNDROME (APS) IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) LEADS TO A MORE SEVERE DISEASE

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Background: Antiphospholipid antibodies (aPL) have been associated with organ damage and certain features in SLE patients.

Objectives: Our aim was to investigate the differences between SLE patients according to the presence of aPL and/or clinical antiphospholipid syndrome.

Methods: Patients from the RELESSER-T registry were included. RELESSER-T is a multicenter, hospital-based registry, with retrospective cross-sectional collection of data from a large representative sample of adult non-selected patients with SLE attending Spanish rheumatology services from the public national health system.

Results: We included 3651 SLE patients and 1368 were positive for aPL (44.9% of patients were positive for anticardiolipin antibodies, 27.3% showed positivity for anti b2glycoprotein I and 24% for lupus anticoagulant). Overall 2283 patients were classified as SLE no aPL, 528 as SLE-APS and 840 as SLE-aPL. Demographic data, clinical and laboratory features in the different groups are showed in **Table 1**. Regarding cardiovascular risk factors, SLE-APS patients had higher rates of hypertension, dyslipidemia and diabetes than SLE-aPL and SLE no aPL patients ($p < 0.001$, $p < 0.001$ and $p = 0.022$, respectively). SLE-APS patients showed a lower prevalence of photosensitivity and higher frequencies of serositis, proteinuria (>0.5 grs), urinary cell casts, seizures and psychosis ($p \leq 0.001$). Overall, SLE-APS patients showed a lower rate of cutaneous manifestations and higher rates of neuropsychiatric, cardiac, pulmonary, renal, joint and ophthalmological manifestations (**Table 1**). In accordance with a more severe clinical profile, higher frequency of anti-DNA antibodies and hypocomplementemia were observed in the SLE-APS group ($p < 0.001$). In addition to a higher disease activity (SLEDAI), SLE APS patients presented more damage accrual with higher values in SLICC (1.9±2.2 in SLE APS, 0.9±1.4 in SLE aPL and 1.1±1.6, $p < 0.001$) and Katz indexes (3±1.8 in SLE APS, 2.7±1.7 in SLE aPL and 2.6±1.6 in SLE no aPL, $p < 0.001$).

Table 1. Main demographic data, clinical and laboratory features in the studied group.

	SLE no aPL, n (%)	SLE APS, n (%)	SLE aPL, n (%)	P
Female sex	2075 (90.9%)	455 (88.3%)	757 (90.1%)	0.178
Age, mean±SD (yr)	47.0±15.1	48.5±14.4	45.3±14.3	<0.001
Disease duration, mean±SD (mo)	141.5±100.7	156.8±109.8	136.4±93.0	0.001
Tobacco use:				0.743
•Current	395 (16.3)	91 (18.6)	125 (16.6)	
•Former	494 (24.1)	119 (24.9)	189 (25.2)	
High blood pressure	647 (28.6)	211 (40.1)	203 (24.4)	<0.001
Dyslipidemia	664 (30.3)	216 (41.9)	221 (27.3)	<0.001
Diabetes:				0.022
•Without organ damage	97 (4.3)	29 (5.6)	25 (3)	
•With organ damage	17 (0.8)	8 (1.5)	3 (0.4)	
Cutaneous manifestations	1769 (74.4)	358 (67.4)	611 (72.7)	0.005
Joint symptoms	636 (27.8)	164 (30.9)	204 (24.3)	0.022
Respiratory manifestations	241 (10.5)	125 (23.5)	70 (8.3)	<0.001
Cardiac manifestations	379 (16.6)	159 (29.9)	125 (14.9)	<0.001
Renal manifestations	862 (37.7)	249 (46.9)	296 (35.4)	<0.001
Neuropsychiatric manifestations	655 (28.7)	235 (44.3)	238 (28.3)	<0.001
Ophthalmological manifestations	315 (13.8)	111 (20.9)	109 (12.2)	<0.001
Positive anti-DNA antibodies	1049 (46.9)	258 (50)	367 (45.1)	<0.001
Hypocomplementemia	1716 (76.7)	424 (82.6)	645 (77.9)	0.011

Conclusion: SLE-APS patients show a more severe clinical profile with higher frequency of major organ involvement and more damage accrual than SLE-aPL and SLE no aPL.

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OP0250

INFLUENTIAL FACTORS IN PROMOTING TREAT-TO-TARGET FOR SYSTEMIC LUPUS ERYTHEMATOSUS VIA EMPOWERING PATIENTS: A COHORT STUDY FROM CHINA BY SMART SYSTEM OF DISEASE MANAGEMENT (SSDM)

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Background: T2T is routine in RA, but no comparable standard has been defined for SLE. In 2015, the definition of Lupus Low Disease Activity State (LLDAS) was generated by Asia-Pacific Lupus Collaboration, and the preliminary validation demonstrated its attainment to be associated with improved outcomes in SLE. A SLEDAI-2K score lower than 4 is the main criteria for LLDAS. SSDM is an interactive mobile disease management application, including application systems for both the doctors and patients. The patients can perform self-assessment, including SLEDAI and medical records entry through the mobile application. The data is synchronized to the SSDM of authorized rheumatologists and stored in cloud database.

Objectives: To evaluate the patterns of T2T and related influential factors among SLE patients after applying SSDM in real world.

Methods: Patients were trained to master SSDM by rheumatologists in clinics. The first assessment for SLEDAI was performed as the baseline. Patients were required to perform repeated assessments after leaving the clinics.

Results: From July 2015 to Jan 2019, 1,090 SLE patients from 88 hospitals were followed up for more than 12 months through SSDM, and the results were summarized in Table 1. The ratio of T2T achievers was 52.84% (576/1,090) at the baseline and improved significantly to 68.35% (745/1,090) after a 12-month follow-up, p<0.01. Among T2T achievers at the baseline, 77.08% (444/576) maintained T2T, and 22.92% (132/576) relapsed. Of patients who didn't achieve T2T at baseline, 58.56% (301/514) of them achieve T2T after 12-month follow-up.

The impact of the times of self-assessment for SLEDAI on T2T has been analyzed. The more frequent of the self-assessments being conducted by patients, the higher improvement of T2T rate will be. We performed linear regression analysis of variables in statistics and parameter estimation by least square method. The improvement of T2T rate(y) was positively correlated with times of self-assessment for SLEDAI(x) independently. The regression equation as "y = 0.0324x + 0.0226 R² = 0.7717", p<0.01. (Figure 1)

Conclusion: After proactive disease management via SSDM, the rate of T2T in SLE patients increased significantly. Patients with SLEDAI-2K≤4 score at baseline had a significantly higher retention rate. The patients who performed more self-assessments through SSDM had lower probability of relapse and higher rate of T2T maintaining and achievement. SSDM is a valuable tool for long term SLE follow-up through empowering patients.

Table1:

Baseline/Last follow-up	Number	%	SLEDAI≤4	%	SLEDAI≥5	%
SLEDAI≤4	576	52.84%	444	77.08%	132	22.92%
SLEDAI≥5	514	47.16%	301	58.56%	213	41.44%
Total	1090	100%	745	68.35%	345	31.65%

Figure 1

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OP0251

SLE PATIENTS FROM NORTH AMERICA ARE OLDER WITH LESS SEROLOGIC ACTIVITY THAN OTHER POPULATIONS IN INTERNATIONAL CLINICAL TRIALS

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Background: Regional differences have been identified as potential confounders of SLE clinical trial results. Recently, no difference between treatment and placebo was observed in the US lupus patients when a significant treatment effect was observed in Europe¹.

Objectives: To compare SLE serologic features/markers of active disease between different geographic regions in recent multinational clinical trials.

Methods: Laboratory data of 1005 subjects from four global randomized SLE clinical trials at baseline were examined. Mean/median C3 and C4 complement levels, prevalence of low C3 or C4 (**Low C3/C4**), positive anti-double stranded DNA (**DNA**), anti-Extractable Nuclear Antibodies (**ENA**), and high-titer Antinuclear Antibody (**ANA**≥1:640) in North America (**NA**) patients were compared to Asia (**AS**), Latin America (**LA**), Africa (**AF**), Western Europe (**WE**), and Eastern Europe (**EE**)
Results: NA patients were significantly older than patients in LA, AF, or AS but not WE or EE. Not surprisingly, they also had higher complement levels and the lowest rates of low C3/C4, DNA, ENA, and ANA ≥1:640. Our data confirm that age is an important factor in the prevalence of low complement and autoantibodies. However, there remained a marked difference in serologic activity between NA and EE, despite being close in age.