

Supplementary

Table S1. Definition of systemic lupus erythematosus manifestations

Table S1. Definition of SLE manifestations			
Manifestation	Description	ICD-9 code	Comments
Cutaneous	Cutaneous lupus erythematosus	695.4	≥1 diagnosis from 180 days before the first SLE diagnosis until Dec 31, 2020
	Discoid lupus erythematosus		
	Discoid lupus		
	Malar rash		
	Butterfly rash		
	Subacute cutaneous lupus		
	Alopecia		
	Any lupus diagnosis by a dermatologist	710.0	
Musculoskeletal	Arthritis	713.80	≥1 diagnosis from 180 days before the first SLE diagnosis until Dec 31, 2020
	Polyarthritis	716.5X	
	Monoarthritis,	716.6X	
	Other specified arthropathy	716.8X	
	Jaccoud arthropathy	716.9X	
	Jaccoud arthritis	714.4	
	Jaccoud deformity		
	Tenosynovitis	727.00	
Renal	Glomerulonephritis	582.X	Patients with ≥1 diagnoses (from 180 days before the first SLE
	Nephritis	583.X	

Table S1. Definition of SLE manifestations

Manifestation	Description	ICD-9 code	Comments
	Lupus nephritis		diagnosis until Dec 31, 2020) and/or those who fulfilled any of the lab
	Membranous nephropathy		tests (test performed from 180 days before the first SLE diagnosis until Dec 31, 2020) will be categorized as having a renal manifestation
	Any lupus diagnosis by a nephrologist with renal failure or chronic renal failure	710.0 and 586 or 585.X plus 584.X (acute renal failure)	
	≥ 1 protein/creatinine ratio tests ≥ 0.5		
	≥ 1 24-hour urine protein test ≥ 500 mg/dl		
	≥ 2 creatinine (B) tests where the result was ≥ 1 mg/dl with a protein-creatinine ratio test result ≥ 0.5 and/or 24-hour urine protein test result ≥ 500 mg/dl		
	≥ 2 creatinine (B) tests where the result has increased in ≥ 0.3 mg/dl from the baseline value with a protein-creatinine ratio test result of ≥ 0.5 and/or 24-hour urine protein test result of ≥ 500 mg/dl		
Hematological	Hemolytic anemia (decrease in hemoglobin test of 1 mg/dl with a haptoglobin test below the normal range and a positive Coombs test)		Patients who fulfilled any criteria (tests performed from 180 days before the first SLE diagnosis until Dec 31 2020) were categorized as having a hematological manifestation
	Leukopenia (WBC<4)		
	Lymphopenia (absolute lymphocyte count<1000)		
	Thrombocytopenia (platelet count<100)		

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Manifestation	Description	ICD-9 code	Comments
Serositis	Pleurisy	511.X	≥1 diagnosis from 180 days before the first SLE diagnosis until Dec 31, 2020
	Pleuritis		
	Pericarditis	420.X, 423.X	
	Pericardial effusion		
Neurologic	Epilepsy	345.X	≥1 diagnosis from 180 days before the first SLE diagnosis until Dec 31, 2020
	Seizures	780.3X	
	CNS vasculitis	437.4	
	Cerebritis	323.8, 323.9	
	Transverse myelitis	341.2X	
	Myelitis		
	Neuromyelitis optica (NMO)	341	
	CVA	434.X	
	Stroke		
	TIA	435.X	
Transient global amnesia	437.7		

Table S2. Serology and hematology laboratory tests

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Test	Defined among	Test defined according to	Results categorization
Antinuclear antibodies (ANA Ab) adults	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 1.2); borderline (according to remark); positive (according to remark or highest result ever ≥ 1.2)
Anti-double stranded DNA antibodies (anti-dsDNA Ab) ELISA	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 15 U/ml); positive (according to remark or highest result ever ≥ 15 U/ml). Anti-dsDNA Ab 2020 was defined the same way for those with ≥ 1 test in 2020
Anti-double stranded DNA antibodies <i>crithidia luciella</i> IFA (anti-dsDNA Ab IFA)	Patients with ≥ 1 test ever	By remarks only	Patients with ≥ 1 test were considered positive; patients defined as being borderline by ≥ 1 test were considered borderline if not defined as positive; patients defined as being negative by ≥ 1 test were considered negative if not defined as positive or borderline. Anti-dsDNA Ab IFA 2020 was defined the same way for those with ≥ 1 test in 2020
Anti-Smith antibodies (anti-Smith Ab)	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 10 U/ml); positive (according to remark or highest result ever ≥ 10 U/ml)

Table S2. Serology and hematology lab test

Test	Defined among	Test defined according to	Results categorization
Anti-Ro antibodies (anti-Ro Ab/anti-SSA)	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 10 U/ml); positive (according to remark or highest result ever ≥ 10 U/ml)
Anti-La antibodies (anti-La Ab/anti-SSB)	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 10 U/ml); positive (according to remark or highest result ever ≥ 10 U/ml)
Anti-RNP antibodies (anti-RNP Ab)	Patients with ≥ 1 test ever	The highest result ever or according to a remark (indicating positive, negative or borderline result)	Negative (according to remark or highest result ever < 10 U/ml); positive (according to remark or highest result ever ≥ 10 U/ml)
Cardiolipin IgG and IgM antibodies	Patients with ≥ 2 tests ever	The highest result ever or according to a remark	Positive if ≥ 40 GPL/ml. Only patients with ≥ 2 tests above the normal range, ≥ 84 days apart were considered as positive
Beta 2 Glycoprotein 1 IgG and IgM antibodies			
Lupus anticoagulant (LAC), according to RVVT ratio and PTT ratio	Patients with ≥ 2 tests ever		Above than the normal range (if the result was above the upper normal range as defined by MHS laboratory). Only patients with ≥ 2 tests above the normal range, ≥ 84 days apart were considered as positive. Patients with ≥ 2 RVVT ratio test and/or ≥ 2 PTT ratio tests, were classified as positive for LAC if they were positive for at

Table S2. Serology and hematology lab test

Test	Defined among	Test defined according to	Results categorization
			least one of the tests (with ≥ 2 tests above the normal range, ≥ 84 days)
C3 and C4	Patients with ≥ 1 test since the first SLE diagnosis	The lowest result since the first SLE diagnosis or by remark indicating the result was below the normal range or above it	Below the normal range (by remark or result) and above the normal range (by remark or result). C3 and C4 in 2020 were defined the same way for those with ≥ 1 test in 2020
White blood cells (WBC)	Patients with ≥ 1 test since the first SLE diagnosis	The lowest result since the first SLE diagnosis	Below the normal range ($\leq 4 \times 10^3/\text{micl}$); above the normal range ($>4 \times 10^3/\text{micl}$)
Platelets (PLT)	Patients with ≥ 2 tests since the first SLE diagnosis	The lowest result since the first SLE diagnosis or by remark indicating the result was above the normal range.	Below the normal range ($<100 \times 10^3/\text{micl}$) Only patients with ≥ 2 consecutive tests below the normal range were classified as so
Lymphocytes, # (LMP #)	Patients with ≥ 1 test since the first SLE diagnosis	The lowest result since the first SLE diagnosis.	Below the normal range (≤ 1); above the normal range (>1)
Coombs direct	Patients with ≥ 1 test ever	By remarks only	Negative or positive. Patients defined as positive by ≥ 1 test were considered positive; patients defined as being negative by ≥ 1 test were considered negative if not defined as positive

Table S2. Serology and hematology lab test

Test	Defined among	Test defined according to	Results categorization
Haptoglobin	Patients with ≥ 1 test ever	The lowest result ever or by remark indicating the result was below the normal range.	Below the normal range (by remark or < 30 mg/dl); above or within the normal range (≥ 30 mg/dl)
Urine protein-creatinine ratio	Patients with ≥ 1 test ever	The highest value ever	Within the normal range (< 0.5 mg/mg creatinine); above the normal range (≥ 0.5 mg/mg creatinine)
24-hour urine protein	Patients with ≥ 1 test ever	The highest value ever	Results were calculated as mg of protein in 24hr for 1 dl of urine and classified as: < 200 mg/24hr; 200- < 500 mg/24hr; ≥ 500 mg/24hr

Table S3. Thromboembolic events in Systemic lupus erythematosus patients with and without positive antiphospholipid antibodies**Table S3. Thromboembolic events in Systemic lupus erythematosus patients with and without positive antiphospholipid antibodies**

	aPL status		Difference ²	95% CI ^{2,3}	p-value ⁴
	Negative, N = 734 ¹	Positive, N = 289 ¹			
Cardio-vascular disease	126 (17.17%)	55 (19.03%)	-0.05	-0.18, 0.09	0.5
MI	19 (2.59%)	7 (2.42%)	0.01	-0.13, 0.15	0.9
CVA/ TIA	20 (2.72%)	10 (3.46%)	-0.04	-0.18, 0.09	0.5
Pulmonary embolism	31 (4.22%)	22 (7.61%)	-0.14	-0.28, -0.01	0.028
Arterial embolism	2 (0.27%)	3 (1.04%)	-0.09	-0.23, 0.04	0.14
Deep vein thrombosis	62 (8.45%)	57 (19.72%)	-0.33	-0.47, -0.19	<0.001

Table S3. Thromboembolic events in Systemic lupus erythematosus patients with and without positive antiphospholipid antibodies

	aPL status		Difference ²	95% CI ^{2,3}	p-value ⁴
	Negative, N = 734 ¹	Positive, N = 289 ¹			
Any thromboembolic event	100 (13.62%)	79 (27.34%)	-0.34	-0.48, -0.21	<0.001
aPL event	158 (21.53%)	104 (35.99%)	-0.32	-0.46, -0.19	<0.001

¹ n (%)
² Standardized Mean Difference
³ CI = Confidence Interval
⁴ Pearson's Chi-squared test; Fisher's exact test

Table S4. Association between hydroxychloroquine annual dose and cumulative daily dose of prednisone

Table S4. Association between hydroxychloroquine annual dose and cumulative daily dose of prednisone			
Annual HCQ dose			
	<300 tabs per year, N = 499	≥300 tabs per year, N = 574	p-value
Prednisone cumulative daily dose			<0.001
0 to ≤5 mg/day	446 (89.38%)	424 (73.87%)	
<5 to ≤7.5 mg/day	33 (6.61%)	78 (13.59%)	
>7.5 mg/day	20 (4.01%)	72 (12.54%)	

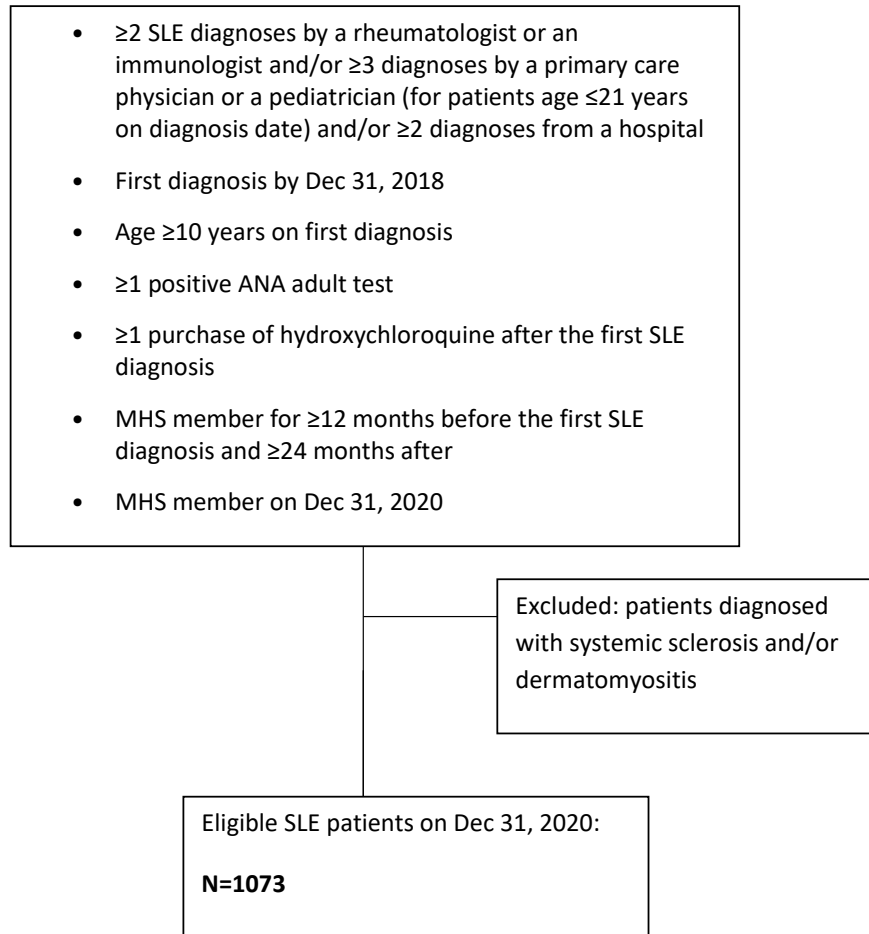
Figure S1. SLE patients inclusion and exclusion criteria

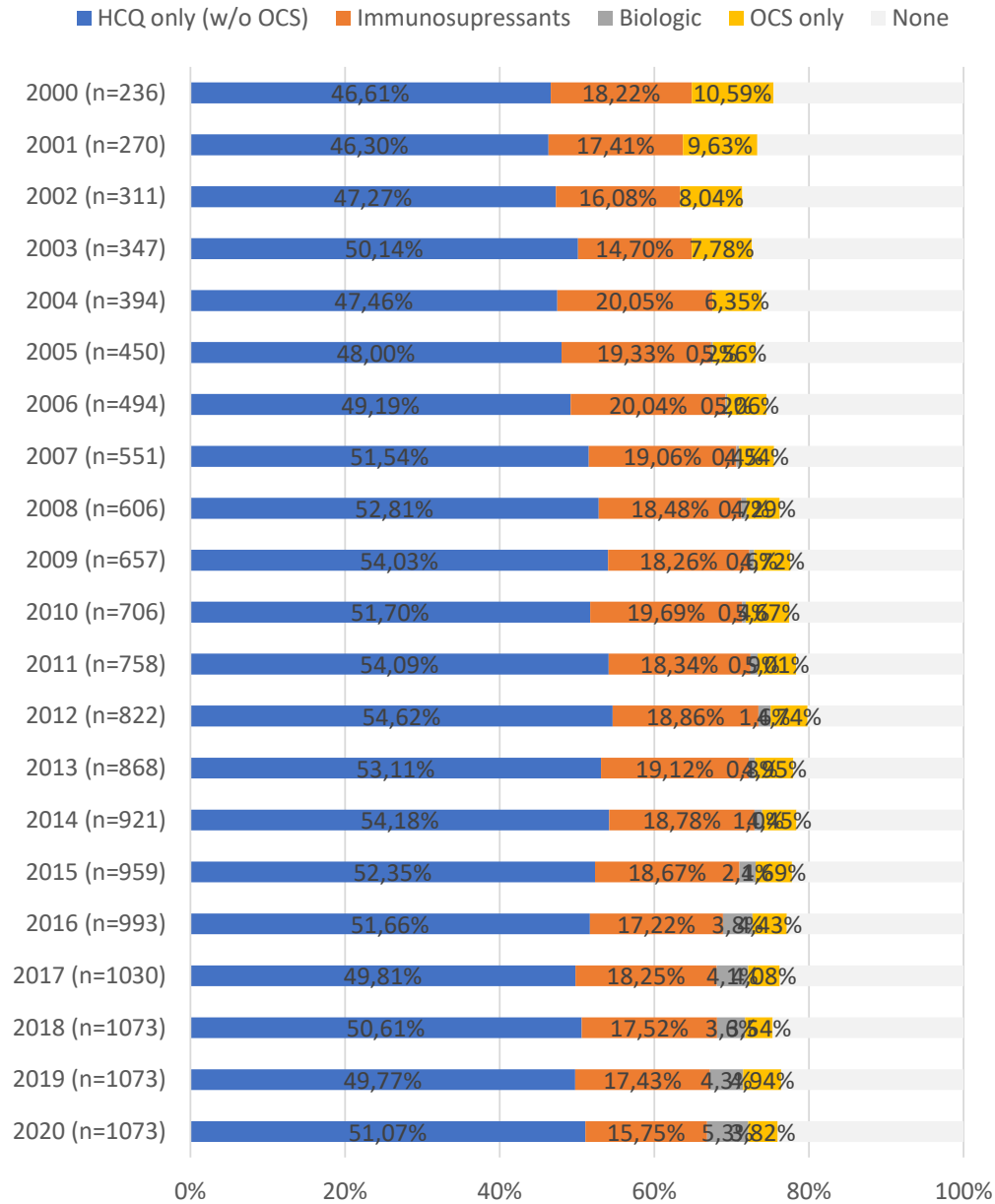
Figure S2. Treatment pattern among prevalent SLE patients 2000-2020

Figure S3. GC dosage in the first 12 months after the first diagnosis by diagnosis year among patients diagnosed during 2000-2018

