Just a little or not at all? Differences in damage between according glucocorticoids dosages in the treatment of Systemic Lupus Erythematosus patients. Data from RELESSER-PROS multicenter prospective cohort.

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Background and objectives

Glucocorticoids (CG) use is a main driver of organ damage progression in Systemic Lupus Erythematosus (SLE). Consequently, recently updated EULAR SLE treatment recommendations suggest avoiding the chronic use of CG or, if necessary, to employ dosages < or = 5 mg of prednisone (or equivalent) [1]. However, the impact of low dosages of GC on organ damage accrual is still not well known. To assess the chronic use of GC and relationship with organ damage in a large, multicentre SLE prospective cohort, undergoing standardized follow up for four years.

Methods and patients

Patients with SLE (≥4 ACR-1997 criteria) enrolled in RELESSER-PROS registry, completing up to 5 annual visits. Sociodemographic characteristics, activity (S-SLEDAI and PGA (0-3), organ damage (SLICC/ACR Damage Index) (SDI), treatments and prednisone dosages for every visit were collected.
We compared patients never used GC during the whole follow-up (group 1), patients using 5 mg/dy or less all the time (group 2) and patients using > 5 mg any time (group 3), in terms of SDI delta (V5-V1). Variables were analysed by GC dose group using Chi-square or Fisher tests for categorical variables, and ANOVA or Kruskal-Wallis for continuous variables depending on normality, assessed with the Shapiro-Wilk test.

Results

A total of 1463 were included. Baseline characteristics of the whole cohort: Mean age: 56.1 (DS±13.6) years, 90% female and 94.1%) Caucasian. Mean duration of the disease: 12.8 (8.81) years. Median (Q1, Q3) SLEDAI 2 [0, 4] and PGA 0.3 [0, 0.9]. Median SDI: 1.00 [0, 2.00]. SDI >0: 63.3%. Treatments: antimalarials in 54,2%, GC 50.6%, methotrexate 10.1%, mycophenolate 13.1%, azathioprine 12.7%, belimumab 4.2% and rituximab 4.5%.
Distribution of GC use and doses at each visit are shown in **table 1**. More than 80% of the patients fulfil the updated EULAR recommendations in every visit 1, in terms of dosages of GC through the follow up. The changes among prednisone-dosage groups across the study are displayed in **figure 1**.
Comparative organ damage by GC dose group is provided in **table 2**. Interestingly, patients treated with GC sustained dose < or = 5mg didn't accumulate more damage (Delta of SDI), as compared with patients who did not receive GC at any time. The comparations were adjusted for age, duration of disease and SDI at baseline (**table 2**).

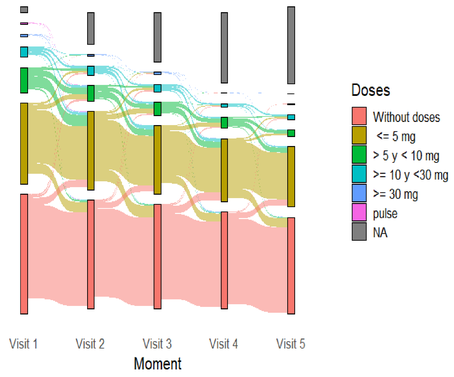

Figure 1: Changes among groups of GC treatments

Table 1 Distribution of GC doses at each visit

Prednisone Doses (mg)	Visit 1 (N=1,463)	Visit 2 (N=1,350)	Visit 3 (N=1,244)	Visit 4 (N=1,107)	Visit 5 (N=1,054)
0 mg	708 (48.4%)	645 (47.8%)	620 (49.8%)	575 (51.9%)	573 (54.4%)
<= 5	483 (33.0%)	464 (34.4%)	405 (32.6%)	374 (33.8%)	359 (34.1%)
> 5 y < 10	149 (10.2%)	96 (7.1%)	80 (6.4%)	66 (6.0%)	39 (3.7%)
>= 10 y <30	61 (4.2%)	53 (3.9%)	44 (3.5%)	21 (1.9%)	29 (2.8%)
>= 30	16 (1.1%)	7 (0.5%)	11 (0.9%)	3 (0.3%)	3 (0.3%)
MP-pulses	6 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.1%)
Missing	40 (2.7%)	85 (6.3%)	84 (6.8%)	68 (6.1%)	50 (4.7%)

Table 2: Comparative organ damage by GC dose group

	1-Never GC (N=212)	2-GC < 5mg (N=212)	3-GC >5 mg* (N=212)	p-value
SDI (at baseline)				
Mean (SD)	1.32 (1.59)	1.33 (1.61)	1.28 (1.64)	0.924
Median [Q1, Q3]	1.00 [0, 2.00]	0.00 [0, 2.00]	1.00 [0, 2.00]	
SDI Delta (ajusted **)		(#)		
Mean (SD)	0.392 (0.730)	0.514 (0.851)	0.726 (1.12)	0.00302
Median [Q1, Q3]	0 [0, 1.00]	0 [0, 1.00]	0 [0, 1.00]	

GC = Glucocorticoids. SDI = SLICC/ACR Damage index. SDI Delta = value in V5 - value in V1.
*any time. ** Adjusted for age, duration of the disease and baseline SDI. # p-value = 0.1592

Conclusions

1. In RELESSER PROS cohort, many patients receive low dosages of CG on a sustained basis, most of them without exceeding the maximum dose recommended by EULAR [1].

2. According SDI, patient who received more than 5mg/day of GC anytime throughout the study develop more organ damage than patients without GC or 5mg/day or less; however, not differences in damage progression were found between 5mg/day or less and not using GC at any time.

1. Fanouriakis A et al, Ann Rheum Dis. 2024 Jan 2;83(1):15-29.

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