Patterns of Glucocorticoid Use among persons with Systemic Lupus Erythematosus (SLE) over Fifteen Years

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OBJECTIVES

> In spite of the recent introductions of new medications for systemic lupus erythematosus (SLE) and guidelines to minimize glucocorticoid (GC) use, GCs remain a mainstay of SLE treatment. We examined patterns of GC use over fifteen years (2006-2021) in two longitudinal U.S. SLE cohorts

METHODOLOGY

> Data from the Lupus Outcomes Study (LOS, 2003-2015) and FORWARD Lupus Registry (FLR, 2015-2021) were used. LOS data were collected annually by interview; FLR data are collected every six months by questionnaire. In each study, participants reported both any use of GCs and GC dosages in the previous 12 months (LOS) or 6 months (FLR). Dosages were categorized as none, low (>0 to <5 mg/day), moderate (≥5 to <10 mg/day, or high (≥10 mg/day) GC use. Frequency of GC use, overall and by dosage, was ascertained by data collection period over the 15-year time span.

RESULTS

> At first study observation, 56% of the LOS cohort and 46% of the FORWARD cohort reported use of GCs (low, moderate, or high) in the previous year (LOS) or 6 months (FLR). Prevalence of use at the time of interview (see tables below) was slightly lower in comparison to previous months.

> Baseline GC dosage was similar in the two cohorts (LOS: 8.6 ± 9.1 mg/day, FLR: 7.9 ± 10.3 mg/day).

> A similar proportion reported high dose GC use at first observation (LOS: 13.7%; FLR: 10.7%).

> The proportion of individuals using any GC and the proportion using high-dose GC were relatively consistent over time within each cohort.

Use of glucocorticoids at the time of interview: Lupus Outcomes Study (LOS)

Time period (n subjects)	2006 (797)	2007 (728)	2008 (775)	2009 (811)	2010 (810)	2011 (788)	2012 (725)	2013 (711)	2014-2015 (709)
Current GC use, %	40.9	40.5	42.3	40.7	39.6	39.7	36.9	37.4	36.7
Mean ± SD dose (mg)	8.6 ± 9.1	8.5 ± 9.3	8.7 ± 8.2	8.8 ± 10.0	8.1 ± 9.8	8.2 ± 8.9	7.8 ± 7.6	8.6 ± 9.7	6.7 ± 5.7
Dosage groups (mg/day), %									
Low (≥0 - <5)	6.4	7.4	7.5	8.4	9.9	8.5	9.0	8.3	10.2
Moderate (≥5 - <10)	20.8	20.2	21.3	20.6	19.0	20.2	18.1	18.6	18.7
High dose (≥10)	13.7	12.9	13.5	11.7	10.7	11.0	9.8	10.5	7.8

Use of glucocorticoids at the time of questionnaire completion: FORWARD

Time period (n subjects)	Dec 2015 (310)	June 2016 (349)	Dec 2016 (338)	June 2017 (312)	Dec 2017 (310)	June 2018 (288)	Dec 2018 (273)	June 2019 (266)	Dec 2019 (227)	June 2020 (238)	Dec 2020 (209)	June 2021 (196)	Dec 2021 (154)
Current GC use, %	38.8	38.1	34.7	32.4	34.5	33.4	31.1	33.8	33.0	31.9	32.0	31.1	34.4
Mean ± SD dose (mg)	7.9 ± 10.3	7.2 ± 6.7	6.9 ± 6.0	6.2 ± 6.6	7.3 ± 7.6	6.5 ± 5.4	7.3 ± 11.7	7.8 ± 12.6	5.7 ± 4.0	6.2 ± 4.8	8.1 ± 9.9	6.6 ± 6.5	5.5 ± 4.3
Dosage groups (mg/day), %													
Low (≥0 - <5)	9.7	10.0	8.9	9.6	8.7	8.0	7.7	9.0	10.6	9.2	9.1	9.2	11.0
Moderate (≥5 - <10)	18.4	19.2	17.2	17.0	17.7	19.1	18.3	18.4	16.7	16.8	14.8	15.3	18.2
High dose (≥10)	10.7	8.9	8.6	5.8	8.1	6.3	5.1	6.4	5.7	5.9	8.1	6.6	5.2

CONCLUSION

> Despite recommendations on steroid-sparing, a large proportion of patients with SLE remain on steroids, with a significant proportion on high doses.

> There may be multiple reasons for this, including lack of new effective treatments to address some SLE manifestations or symptoms, lack of access to other medications, physician or patient preference.

> These analyses underscore the need for other effective treatments for SLE.

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