

Long-term glucocorticoid use and acute care utilization among participants in a SLE registry

Background

- Chronic utilization of glucocorticoids is associated with worse outcomes, independent of systemic lupus erythematosus (SLE) disease activity (1)
- We examined whether acute care utilization was associated with long-term glucocorticoid use in patients with Systemic Lupus Erythematosus

Methods

Patient sample

- Enrollment data from Cleveland Clinic SLE Registry
 - SLE defined by SLICC or ACR criteria
 - Demographic and disease-specific variables by self-report:
 - Age, sex, race, disability status, current/previous SLE medications
 - Glucocorticoid tapers not considered chronic utilization
 - Systemic Lupus Erythematosus Disease Activity Index 2000 (SLEDAI-2K) obtained from clinician assessment
- Healthcare utilization data by medical record review for 1 year before SLEDAI score
 - Hospitalizations, ED visits, rheumatologist visits, and other outpatient visits

Statistical approach

- Multivariable logistic regression of chronic glucocorticoid use and high acute care utilization (≥ 2 emergency department visits in the past year) adjusted for disease activity, hospitalization, and ≤ 2 rheumatologist visits

Results

- 95 registry participants chart reviewed and included in the analysis
- Cohort characteristics reported in Table 1
- Results of multivariable regression model in Table 2

Table 1. Analytic cohort characteristics

Variable	Overall	Chronic steroid use (N=50)	No chronic steroid use (N=45)
Mean age (SD)	44 (15)	40 (15)	47 (15)
Percent female	89%	43 (86%)	42 (93%)
Mean SLEDAI-2k [†] (SD)	5.1 (6.5)	7.5 (7.9)	2.5 (2.7)
# SLEDAI-2k [†] ≥ 6	35 (37%)	28 (56%)	7 (16%)
Median outpatient visits (IQR)	6 (4-11)	8 (6-13)	5 (3-8.5)
# with ≥ 2 emergency department visits	23 (24%)	19 (38%)	4 (9%)
# with ≤ 2 rheumatologist visits	45 (47%)	29 (58%)	21 (47%)

Table 2. Multivariable logistic regression model of glucocorticoid use and high burden of acute care use

Variable	Estimate	Odds ratio (95% confidence interval)	P-value
High acute care use*	7.49	6.70 (1.44 – 31.15)	0.015
Hospitalization	0.20	0.72 (0.20 – 2.67)	0.63
Total SLEDAI-2K [†] ≥ 6	7.45	5.06 (1.47 – 17.44)	0.01
≤ 2 rheumatologist visits	1.90	0.47 (0.16-1.37)	0.17

Overall model p-value < 0.0001 ; Overall model N = 95

*High acute care use defined as ≥ 2 emergency department visits in the past year

[†]SLEDAI-2K stands for systemic lupus erythematosus disease activity index 2000

Conclusions

- Patients with SLE with a high burden of acute care utilization in a year were more likely to have received long-term glucocorticoids over that time span
- Future research needs to identify possible mechanisms underlying this association and methods to increase use of steroid sparing medications in this population

References

1. Apostolopoulos D, Kandane-Rathnayake R, Louthrenoo W, Luo SF, Wu Y-J, Lateef A, et al. Factors associated with damage accrual in patients with systemic lupus erythematosus with no clinical or serological