

Background

- Patients with systemic lupus erythematosus (SLE) are generally known to have increased risk of infections.
- However, there is a lack of studies exploring how SLE affects the outcomes of Clostridioides Difficile Infection (CDI).
- Thus, we aim to assess the outcomes of CDI in hospitalized patients with concomitant SLE.

Methods

- Patients hospitalized with CDI from the National Inpatient Sample, Healthcare Cost and Utilization Project, Agency for Healthcare Research and Quality in the year 2014 were selected.
- Patient demographics and outcomes of CDI were compared between the groups with and without SLE.
- The outcomes of interest were inpatient mortality, length of stay, total hospital charge, hypotension/shock, acute renal failure, ileus, megacolon, and colectomy.

- Chi-squared tests and independent t-tests were used to compare proportions and means respectively.
- Multivariate logistic regression analysis was performed to determine if SLE is an independent predictor for the outcomes, adjusting for age, sex, race, Charlson Comorbidity Index, and CDI risk factors including obesity, inflammatory bowel disease, and cirrhosis.

Results

Table 1. Patient Demographics and Characteristics

| | SLE | Without SLE | P-value |
|------------------------------------|---------------------|---------------------|---------|
| N = 29,549 | N = 332 | N = 29,217 | |
| Patient age, mean (SD) | 53.81 (16.67) | 66.42 (18.01) | <0.05 |
| Sex | | | <0.05 |
| Female (%) | 302 (90.96%) | 18653 (63.85%) | |
| Male (%) | 30 (9.04%) | 10561 (36.15%) | |
| Race, N (%) | | | <0.05 |
| White | 180 (55.73%) | 21859 (78.36%) | |
| Black | 89 (27.55%) | 2870 (10.29%) | |
| Hispanic | 41 (12.69%) | 2035 (7.29%) | |
| Asian or Pacific Islander | * | 430 (1.54%) | |
| Native American | * | 149 (0.53%) | |
| Other | * | 554 (1.99%) | |
| Length of stay, in days (SD) | 6.69 (5.56) | 6.23 (6.45) | 0.2 |
| Total hospital charges, in \$ (SD) | 45884.13 (50817.45) | 41200.36 (61862.13) | 0.17 |
| Inpatient mortality | * | 524 (1.79%) | <0.05 |
| Charlson comorbidity index (SD) | 3.77 (2.38) | 4.20 (2.67) | <0.05 |

*Exact number not included in the table due to small sample sizes

Table 2. Multivariate Regression Analysis of Outcomes

| Outcomes | Adjusted Odds Ratio | Confidence Interval | P-value |
|----------------------|---------------------|---------------------|---------|
| Acute renal failure | 1.059 | 0.773-1.453 | 0.72 |
| Hypotension/shock | 0.451 | 0.231-0.878 | <0.05 |
| Ileus | 0.766 | 0.339-1.730 | 0.521 |
| Colectomy | 1.291 | 0.315-5.290 | 0.723 |
| In-patient mortality | 0.271 | 0.037-1.960 | 0.196 |

- Among 29,549 patients with CDI identified in the study, 332 patients had SLE.
- Between the groups, there were no statistically significant differences in length of stay and total hospital charge (all p > 0.05).
- Interestingly, patients with SLE were less likely to have hypotension/shock (OR 0.45, 95% CI: 0.23-0.88, p < 0.05).
- Odds of acute renal failure, ileus, colectomy, and inpatient mortality were not statistically significant (all p > 0.05). Statistical analysis for megacolon was omitted due to low prevalence in both groups.

Conclusion

- Our study indicates that SLE is an independent protective factor against hypotension/shock in patients hospitalized with CDI while there are no significant differences in other outcomes.