The impact of libman-sacks endocarditis on inpatient outcomes of patients with systemic lupus erythematosus: A retrospective study

Halah Alfatlawi[1*]

[1]Division of Internal Medicine, Department of Medicine, The University of Toledo, Toledo, OH 43614

*Corresponding author: Halah.Alfatlawi@utoledo.edu

Published: 14 December 2023

Introduction: Libman-Sacks endocarditis (LSE) is recognized as the hallmark cardiac manifestation in individuals with the autoimmune disease of systemic lupus erythematosus (SLE). The existing literature offers limited insights into the influence of LSE on inpatient outcomes in individuals with SLE. This study was conducted to explore the characteristics and prognosis of SLE patients with LSE and the impact of LSE in patients with SLE on inpatient outcomes including: inpatient mortality, length of stay, acute heart failure, atrial fibrillation, and cerebrovascular accidents (CVA).

Methods: This study followed a retrospective observational design and included adult patients who were hospitalized with SLE between the years 2019 and 2020, using the National Inpatient Sample (NIS) database. NIS is one of the largest available databases in United States and consists of discharge data from a 20% stratified sample of US hospitalizations. There is a possibility that our data utilizing NIS does not include the entire population that otherwise fits the inclusion crtieria. Data was expressed as percentages for categorical variables and mean ±SD for continuous variables. All p values were 2-sided, with 0.05 as a threshold for statistical significance.

The total number of patients with a diagnosis of SLE in the 2019 and 2020 in the NIS database was 150,411. Of those, 349 had a diagnosis of LSE.

The study population was divided into two groups: one group with SLE and LSE, and another group with SLE but without LSE.

Results: Caucasians made up 54.9% of the patients with a diagnosis of SLE in our patient population, while African Americans made up 26.9% and the Hispanics accounted for 12.2%. Of patients with LSE, Caucasians and African Americans made up 42.9% each.

Patients with a diagnosis of LSE had a higher inpatient mortality than those with SLE without LSE (aOR: 9.74 CI 1.12-84.79, p 0.04). Patients with SLE with LSE were more likely to have acute heart failure than those without LSE, although this was not statistically significant (aOR 1.18 CI 0.13-11.07, p

0.88). Similarly, patients with SLE with LSE were more likely to have atrial fibrillation than those without LSE (aOR 4.45 CI: 0.77- 25.57, p 0.10). CVAs were significantly higher in SLE patients with LSE than those without LSE (aOR 141.43 CI 16.59-1205.52, p <0.01).**Discussion:** Findings from this study underscore the significance of conducting further studies to explore the relationship between systemic lupus erythematosus and Libman-Sacks endocarditis. Particularly, patients who develop LSE were found to have significantly higher risks of inpatient mortality and cerebrovascular accidents. Early and precise detection of LSE in such patients may ensure timely intervention and prevention of the associated adverse outcomes. Further studies may attempt to develop screening methods for detection of LSE to effectively reduce morbidity and mortality associated with SLE.

Conclusion: Findings from this study underscore the significance of conducting further studies to explore the relationship between systemic lupus erythematosus and Libman-Sacks endocarditis. Particularly, patients who develop LSE were found to have significantly higher risks of inpatient mortality and cerebrovascular accidents. Early and precise detection of LSE in such patients may ensure timely intervention and prevention of the associated adverse outcomes. Further studies may attempt to develop screening methods for detection of LSE to effectively reduce morbidity and mortality associated with SLE.

