Cardiovascular diseases among patients with Systemic Lupus Erythematosus

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Background: Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease characterized by widespread inflammation affecting multiple organ systems. Patients with SLE are at an increased risk of developing cardiovascular diseases (CVDs), which are now recognized as a leading cause of death in this population. The relationship between SLE and CVD is complex, involving a combination of traditional risk factors, such as hypertension and dyslipidemia, and SLE-specific factors like chronic inflammation and autoantibody production.

Objectives: To evaluate the effect of SLE on the risk of CVDs.

Methods: All hospitalization of patients with Lupus from ages ? 18 were extracted from the National Inpatient Sample Database, 2021. Cardiovascular diseases (Atherosclerosis, Cardiomyopathy, and Heat Failure) were identified using the International Classification of Disease (ICD)-10. Weighted logistic regression analyses were conducted to summarize associations adjusted for age and gender.

Results: Among 6,666,752 hospitalizations, 29,304 were for Lupus. Lupus was significantly associated with increased odds of Atherosclerosis (OR = 1.40; 95% CI:1.26,1.55), Cardiomyopathy (OR = 1.97; 95% CI:1.87,2.07), and Congestive Heart Failure (CHF) (OR = 2.02; 95% CI:1.92,2.14). Older age and male gender were associated with significantly higher OR for the three cardiovascular diseases.

Conclusions: This study underscores the strong association between Systemic Lupus Erythematosus (SLE) and increased risk of CVDs, including atherosclerosis, cardiomyopathy, and heart failure. Analysis of data from the National Inpatient Sample Database, 2021, revealed significantly higher odds of these CVDs in SLE patients, particularly among older adults and men. The interplay of chronic inflammation,

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autoantibody production, and traditional risk factors exacerbates cardiovascular risk in this population. These findings emphasize the critical need for proactive cardiovascular monitoring and targeted interventions to improve outcomes and reduce CVD-related morbidity and mortality in SLE patients.

Keywords: Lupus, Cardiovascular Disease

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