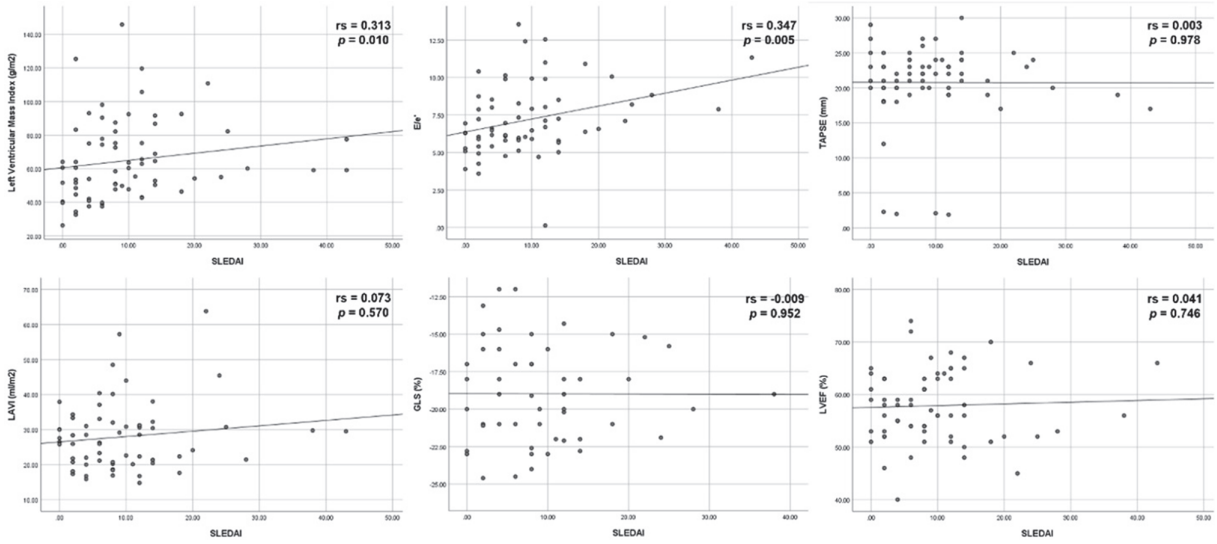


**Abstract PO.3.57 Figure 1** Scatter plots of correlations between SLEDAI and echocardiographic parameters

disease, or pregnancy were excluded. A transthoracic echocardiogram was performed by two certified echocardiographers blinded to clinical information. Disease activity was assessed with SLEDAI. Distribution of quantitative variables was evaluated with the Kolmogorov-Smirnov test. Correlations between SLEDAI and echocardiographic parameters were assessed with Spearman's correlation coefficient (rs). A p-value < 0.05 was considered statistically significant.

**Results** Median age of SLE patients was 37 (24–42) years, 89.6% were women, and 20.9% had hypertension diagnosis. Median SLEDAI was 8 (4–12). Demographic and clinical characteristics are shown in Table 1. We found a moderate positive correlation between SLEDAI and left ventricular mass index (rs = 0.313, p = 0.010), and between SLEDAI and the ratio between early mitral inflow velocity and mitral annular early diastolic velocity (E/e') (rs = 0.347, p = 0.005) (Figure 1).

**Conclusions** Higher SLEDAI score was associated with higher left ventricular mass index and E/e'. An increased left ventricular mass index could lead to the development of left ventricular hypertrophy, and an increased E/e' could lead to the development of diastolic dysfunction, which are associated with higher risk of cardiovascular mortality. A transthoracic echocardiogram may be helpful to detect early cardiovascular abnormalities, especially in patients with high disease activity, and therefore, should be considered as part of the cardiovascular evaluation in this specific population.

## PO.3.58 ASSOCIATION OF ANTI-DOUBLE STRANDED DNA ANTIBODY TITERS AND ECHOCARDIOGRAPHIC PARAMETERS IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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**Purpose** Systemic lupus erythematosus (SLE) is a chronic inflammatory disease, characterized by the deposition of immunocomplexes in vital organs such as the heart, brain, and kidneys. High autoantibodies titers have been associated with a worse cardiovascular prognosis. Anti-double stranded DNA (anti-dsDNA) antibody has been associated with skin, brain and kidney injury, however, information about its association with cardiovascular risk is scarce. We aimed to evaluate the association between measure anti-dsDNA antibody titers and echocardiographic parameters in SLE patients.

**Methods** This was a cross-sectional study. We recruited a total of 67 patients with SLE diagnosis, according to the 2019

**Abstract PO.3.58 Table 1** Demographic and clinical characteristics

| Characteristics | SLE patients (n=67) |
|---|---|
| Age, years, median (IQR) | 37.0 (24.0-42.0) |
| Women, n (%) | 60 (89.6) |
| T2DM, n (%) | 3 (4.5) |
| Hypertension, n (%) | 14 (20.9) |
| Dyslipidemia, n (%) | 4 (6.0) |
| Obesity, n (%) | 9 (13.4) |
| Active smoking, n (%) | 8 (11.9) |
| Disease duration, months, median (IQR) | 72.0 (28.0-120.0) |
| Anti-dsDNA, median (IQR) | 0.0 (0.0-160.0) |
| Hydroxychloroquine, n (%) | 59 (88.1) |
| Glucocorticoids, n (%) | 54 (80.6) |
| LV mass index, g/m$^2$, median (IQR) | 60.14 (47.69-77.77) |
| E/e', median (IQR) | 6.58 (5.80-8.45) |
| LAVI, ml/m$^2$, median (IQR) | 26.46 (20.71-31.26) |
| LVEF, %, mean ± SD | 57.86 ± 6.76 |
| GLS, %, mean ± SD | -18.97 ± 3.30 |
| TAPSE, mm, median (IQR) | 22.0 (20.0-24.0) |
| PASP, mmHg, mean ± SD | 23.15 ± 7.63 |

SLE, systemic lupus erythematosus; T2DM, type 2 diabetes mellitus; anti-dsDNA, anti-double stranded DNA antibodies; LV, left ventricular; E/e', the ratio between early mitral inflow velocity and mitral annular early diastolic velocity; LAVI, left atrial volume index; left ventricular ejection fraction; GLS, global longitudinal strain; TAPSE, tricuspid annular plane systolic excursion; PASP, pulmonary arterial systolic pressure.

**Abstract PO.3.58 Table 2** Correlation between anti-dsDNA antibodies and echocardiographic parameters

| | LV mass index | E/e' | LAVI | LVEF | GLS | TAPSE | PASP |
|---|---|---|---|---|---|---|---|
| **Anti-dsDNA** | **rs=0.332** | **rs=0.368** | rs=0.157 | rs=0.002 | rs=0.011 | rs=-0.004 | **rs=0.326** |
| | ***p*=0.006** | ***p*=0.003** | *p*=0.220 | *p*=0.989 | *p*=0.937 | *p*=0.973 | ***p*=0.013** |

Anti-dsDNA, anti-double stranded DNA antibodies; LV, left ventricular; E/e', the ratio between early mitral inflow velocity and mitral annular early diastolic velocity; LAVI, left atrial volume index; left ventricular ejection fraction; GLS, global longitudinal strain; TAPSE, tricuspid annular plane systolic excursion; PASP, pulmonary arterial systolic pressure.

EULAR/ACR classification criteria, aged ≥18 years. A transthoracic echocardiogram was performed by two certified echocardiographers blinded to clinical information. A blood sample was drawn to measure anti-dsDNA titers. Distribution was evaluated with the Kolmogorov-Smirnov test. Correlations between anti-dsDNA antibody titers and echocardiographic parameters were determined with Spearman's correlation coefficient (rs). A p-value < 0.05 was considered statistically significant.

**Results** Median age of SLE patients was 37 (24–42) years, 89.6% were women, and 20.9% had hypertension diagnosis. Demographic and clinical characteristics are shown in Table 1. We found a moderate positive correlation between anti-dsDNA antibody titers and left ventricular mass index (rs = 0.332, p = 0.006), a moderate positive correlation between anti-dsDNA antibody titers and the ratio between early mitral inflow velocity and mitral annular early diastolic velocity (E/e') (rs = 0.368, p = 0.003), and a moderate positive correlation between anti-dsDNA and pulmonary arterial systolic pressure (PASP) (rs = 0.326, p = 0.013) (Table 2).

**Conclusions** Higher titers of anti-dsDNA antibody are associated with higher left ventricular mass index, E/e', and PSAP, which could lead to the development of ventricular hypertrophy, diastolic dysfunction, and pulmonary hypertension respectively. The performance of a transthoracic echocardiogram may be helpful to detect early cardiovascular abnormalities in SLE patients, especially those with high anti-dsDNA antibody titers.

## PO.3.59 ECHOCARDIOGRAPHIC ABNORMALITIES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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**Purpose** Patients with systemic lupus erythematosus (SLE) have a higher risk of developing a cardiovascular event, due to multiple factors including a systemic inflammatory state, which is related to an accelerated process of atherosclerosis and endothelial damage. We aimed to compare the echocardiographic findings in patients with SLE and controls.

**Methods** This was a cross-sectional study. We recruited 57 patients with SLE diagnosis according to the 2019 EULAR/ACR classification criteria, aged ≥ 18 years and 57 matched controls by age (± 5 years) and gender. A transthoracic echocardiogram was performed by two certified echocardiographers blinded to clinical information. Distribution was evaluated with the Kolmogorov-Smirnov test. Comparisons were done with Chi-square test for qualitative variables and Student's T-test or Mann-Whitney´s U-test for quantitative variables. A p-value < 0.05 was considered statistically significant.

**Results** There were no significant differences in demographic characteristics between groups, except for hypertension, which was more prevalent in SLE patients (21.1% vs 7.0%, p = 0.031) Demographic characteristics are shown in Table 1. We found a significant difference in the left ventricular ejection fraction (LVEF) (56.50% vs 58.00%, p = 0.049), in the global longitudinal strain (GLS (-19.05% vs -21.00%, p = 0.028), in the tricuspid annular plane systolic excursion (TAPSE) (22.10 mm vs 23.56 mm, p = 0.015), in the presence of diastolic dysfunction (21.1% vs 7.0%, p = 0.031) and in the presence of mitral regurgitation (24.6% vs 10.5%, p = 0.049).

**Conclusions** Patients with SLE had a worse left ventricular function, evaluated by LVEF and GLS, a worse right ventricular systolic function, evaluated by TAPSE, and a higher

**Abstract PO.3.59 Table 1** Demographic characteristics

| | SLE patients (n=57) | Controls (n=57) | *p-value* |
|---|---|---|---|
| Age years, mean ± SD | 35.31 ± 12.04 | 35.82 ± 10.46 | 0.810 |
| Women, n (%) | 51 (89.5) | 51 (89.5) | 1.000 |
| HTN, n (%) | 12 (21.1) | 4 (7.0) | **0.031** |
| T2DM, n (%) | 2 (3.5) | 4 (7.0) | 0.679 |
| Dyslipidemia, n (%) | 4 (7.0) | 6 (10.5) | 0.508 |
| Obesity, n (%) | 3 (5.3) | 8 (14.0) | 0.113 |
| Active smoking, n (%) | 8 (14.0) | 3 (5.3) | 0.113 |

SLE, systemic lupus erythematosus; HTN, hypertension; T2DM, type 2 diabetes mellitus

**Abstract PO.3.59 Table 2** Echogardiographic findings

| | SLE patients (n=57) | Controls (n=57) | *p-value* |
|---|---|---|---|
| Left ventricle indexed mass, g/m², median (IQR) | 60.25 (48.94-77.13) | 61.22 (51.80-75.84) | 0.791 |
| RWT, median (IQR) | 0.35 (0.29-0.43) | 0.36 (0.30-0.43) | 0.986 |
| LVEF, %, median (IQR) | 56.50 (52.25-63.00) | 58.00 (56.00-62.75) | **0.049** |
| GLS, %, median (IQR) | -19.05 (-22.00 – -16.00) | -21.00 (-22.00 – -19.00) | **0.028** |
| Left atrium indexed volume, ml/m², median (IQR) | 26.27 (20.30-31.63) | 24.86 (20.59-28.98) | 0.288 |
| TAPSE, mm, mean ± SD | 22.10 ± 3.08 | 23.56 ± 3.00 | **0.015** |
| Diastolic dysfunction, n (%) | 12 (21.1) | 4 (7.0) | **0.031** |
| Valvular abnormalities | | | |
| Aortic regurgitation, n (%) | 3 (5.3) | 0 (0.0) | 0.243 |
| Mitral regurgitation, n (%) | 14 (24.6) | 6 (10.5) | **0.049** |
| Tricuspid regurgitation, n (%) | 27 (47.4) | 18 (31.6) | 0.085 |

SLE, systemic lupus erythematosus; RWT, relative wall thickness; LVEF, left ventricular ejection fraction; GLS, global circumferential strain; TAPSE, tricuspid annular plane systolic excursion