

Electrocardiographic alterations in patients with Systemic Lupus Erythematosus and controls

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BACKGROUND

Systemic lupus erythematosus (SLE) is an autoimmune disease with a high prevalence worldwide. Patients with SLE have a higher frequency of developing cardiovascular disease than the general population. There is little evidence on conduction abnormalities and arrhythmias in patients with SLE.

OBJECTIVE

The aim of this study is to compare electrocardiogram alterations in patients with SLE and a control group.

METHODS

A cross-sectional, observational, comparative study was performed. A total of 70 patients with SLE, and 70 controls matched for age (± 5 years) and gender were recruited. An electrocardiogram was performed in all study subjects. Kolmogorov-Smirnov test was used for distribution analysis. Comparisons were performed by Chi-square test

for qualitative variables and Student's t-test or Mann Whitney U test for quantitative variables. A p value <0.05 was considered statistically significant.

RESULTS

In electrocardiogram findings, a significant difference was found in QRS segment duration (84.00 vs 89.50 ms, $p=0.012$), QT segment duration (397.01 vs 384.44 ms, $p=0.016$) and heart rate (68.60 vs 74.77, $p=0.03$) (Table 1).

Table 1. ECG comparison between SLE and controls.

Variables	Patients with SLE (n=70)	Controls (n=70)	p-value
Age, years, median (IQR)	35.0 (25.0-50.2)	35.0 (22.7-50.2)	NS
Women, n (%)	63 (90)	64 (91.4)	NS
QRS, ms, median (IQR)	89.50 (84.75-95.50)	84.00 (80.00-90.00)	0.012
QT, ms, mean \pm SD	384.44 \pm 30.84	397.01 \pm 30.21	0.016
HR, bpm, mean \pm SD	74.77 \pm 12.93	68.60 \pm 11.25	0.003

ECG, electrocardiogram; SLE, systemic lupus erythematosus; NS, not significant; HR, heart rate; ms, milliseconds; bpm, beats per minute.

CONCLUSION

The results suggest that patients with SLE have increased QRS segment, increased heart rate and decreased QT segment duration, which may be related to disturbances of the conduction system.