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Monocyte/high-density lipoprotein ratio as a cardiovascular risk biomarker in systemic lupus erythematosus

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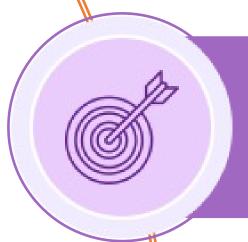
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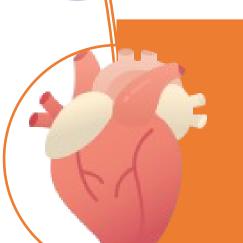


SLE patients show an increased risk of cardiovascular (CV) events, by a combination of known traditional risk factors and those inherent to the disease itself.

Previous studies have demonstrated the relationship between the monocyte/ high-density lipoprotein (HDL) cholesterol ratio (MHR) index and CV events in other populations.



To assess the association between the MHR ratio and CV events in lupus patients of Latin America.



- -Cross-sectional study.
- -Clinical and laboratory data was extracted from patients' medical charts from SLE centers of Latin America and the GLADEL 2.0 cohort.
- -CV events were defined as either cardiovascular and/or cerebrovascular events.
- -MHR will be obtained by dividing the monocyte count (10³ cells/μL) by HDL-C (mg/dL).



A total of 734 patients entered this study, 48(6.5%) presented at least one CV event (Table 1).

Multivariate analysis: renal involvement (OR 2.48; 95% CI 1.09-5.80; p 0.032); antimalarial use (OR 0.22; 95% CI 0.08- 0.66; p 0.005) and damage accrual (OR 1.49; 95% CI 1.18- 1.88; p<0.001) were associated with CV Events.

The MHR was not associated with CVevents (OR 1.02; 95% CI 0.94- 1.08; p 0.700).

The MHR was not associated with CV events.

Renal disease and damage accrual influenced the appearance of CV events. The use of antimalarials in contrast appears to have a protective effect.

Table1. Comparison between patients according to the presence of CV events

Variables	Presence of CV event (N=48)	Absence of CV event (N=686)	p-value	Total (N=734)
Female, n(%)	41 (85.4%)	628 (91.5%)	0.181	669 (91.1%)
Etnia,n(%)				
Caucasian	9 (18.8%)	94 (13.7%)	0.590	103 (14.0%)
Mestiza	36 (75.0%)	537 (78.3%)		573 (78.1%)
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Other	3 (6.3%)	55 (8.0%)		58 (7.9%)
Age at SLE diagnosis, Median [Q1, Q3]	30.5 [24.8, 41.8]	29.0 [22.0, 38.0]	0.144	29.0 [22.1, 38.0]
Smoke, n(%)	9 (28.1%)	71 (18.3%)	0.024	80 (19.1%)
Dyslipidemia, n(%)	10 (20.8%)	153 (22.4%)	0.946	163 (22.3%)
Hypertension, n(%)	21 (43.8%)	222 (32.4%)	0.146	243 (33.2%)
Diabetes, n(%)	4 (8.3%)	24 (3.5%)	0.105	28 (3.8%)
Cutaneous domain,n(%)	44 (91.7%)	586 (85.7%)	0.345	630 (86.1%)
Articular domain, n(%)	39 (81.3%)	582 (85.1%)	0.611	621 (84.8%)
Hematological domain,n(%)	25 (52.1%)	456 (66.7%)	0.057	481 (65.7%)
Serosal domain, n(%)	17 (35.4%)	189 (27.6%)	0.317	206 (28.1%)
Renal domain, n(%)	34 (70.8%)	170 (24.8%)	<0.001	204 (27.8%)
Cardiac domain, n(%)	13 (27.1%)	60 (8.7%)	<0.001	73 (9.9%)
aPL +, n(%)	17 (47.2%)	173 (34.2%)	0.161	190 (35.1%)
Antiphospholipid syndrome, n(%)	11 (36.7%)	24 (7.3%)	<0.001	35 (9.7%)
anti-DNA+, n(%)	29 (64.4%)	499 (74.8%)	0.173	528 (74.2%)
Monocytes (absolute value/uL), Median [Q1, Q3]	400 [300, 550]	409 [287, 560]	0.886	407 [288, 560]
Total cholesterol (mg/dl), Median [Q1, Q3]	92.0 [66.0, 120]	101 [82.0, 123]	0.089	100 [81.0, 123]
HDL (mg/dl), Median [Q1, Q3]	45.0 [39.0, 66.3]	46.0 [38.0, 57.0]	0.538	46.0 [38.0, 58.0]
LDL (g/l), Median [Q1, Q3]	92.0 [66.0, 120]	101 [82.0, 123]	0.089	100 [81.0, 123]
MHR, Median [Q1, Q3]	7.58 [5.34, 12.0]	8.68 [5.71, 12.3]	0.595	8.66 [5.70, 12.3]
Antimalarial use, n(%)	38 (80.9%)	643 (94.4%)	0.002	681 (93.5%)
Mycophenolate use, n(%)	6 (15.0%)	134 (21.7%)	0.420	140 (21.3%)
IV cyclophosphamide, n(%)	15 (37.5%)	201 (32.5%)	0.634	216 (32.8%)
SLEDAI, Median [Q1, Q3]	2.00 [0, 8.00]	4.00 [0, 9.00]	0.123	4.00 [0, 9.00]
SDI, Median [Q1, Q3]	1.00 [1.00, 3.00]	0 [0, 1.00]	<0.001	0 [0, 1.00]