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

Ribles
Investigación continua

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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 ($10^3$ 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%) |
| 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] |