

Running towards higher HDL cholesterol

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Introduction:

The cholesterol contained in high-density lipoproteins (HDL-C) is colloquially called the good cholesterol owing to the beneficial effects of HDL particles on the cardiovascular system. Along with its function in reverse cholesterol transport, HDL maintains normal endothelial function and has antioxidative as well as anti-inflammatory effects.

Aim:

The aim of this study was to compare serum lipid parameters of healthy sedentary individuals and healthy individuals who actively participate in aerobic exercise.

Participants & Methods:

A total of 20 healthy men aged 56 to 64 years were enrolled in the study - 10 were not playing sports actively (NS - no sports) and 10 were active long-distance runners (S - sports). Routine biochemistry lipid parameters were determined using the Cobas c system (Roche Diagnostics, Hitachi, Tokyo, Japan). Low-density lipoprotein cholesterol (LDL-C) levels were calculated using Friedewald's formula. Quantitative variables were presented as medians with interquartile ranges. The Mann-Whitney U test was used to compare the groups. P value <0.05 was considered statistically significant.

Results:

There was no significant difference in age [NS: 60.0 (58.8, 61.3); S: 61.0 (56.8, 62.0) years; P=0.977], body weight (P=0.065) or height (P=0.468) between compared groups. However, the S group had a significantly smaller waist circumference (P=0.004). Total cholesterol [NS: 5.3 (4.9, 5.9); S: 5.7 (5.2, 5.9) mmol/L], LDL-C [NS: 3.3 (2.9, 3.8); S: 3.2 (2.4, 3.6) mmol/L], as well as triglyceride levels [NS: 1.0 (0.8, 1.2); S: 0.8 (0.7, 1.2) mmol/L], were similar in NS and S groups (P=0.402, P=0.445, P=0.539, respectively). Interestingly, HDL-C levels were significantly higher in the S compared to the NS group [NS: 1.6 (1.4, 1.8); S: 1.8 (1.7, 2.2) mmol/L, P=0.018].

Conclusion:

Despite the favorable HDL-C serum levels observed in both groups, these were significantly higher in healthy active long-distance runners compared to healthy sedentary participants.

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