

High density lipoprotein cholesterol in coronary artery patients: is it as low as expected?

Koroner arter hastalarında yüksek dansiteli lipoprotein kolesterol: Beklendiği kadar düşük mü?

Dear Editor,

In the December 2005 issue of The Anadolu Kardiyoloji Dergisi, I read with interest the article by the group of Oğuz on levels of high-density lipoprotein cholesterol (HDL-C) among Turks (1), a finding initially demonstrated by Mahley et al. (2) in the Turkish Heart Study in 1995 and confirmed later in the Turkish Adult Risk Factor Study (3). Both of these surveys were population-based, involved mostly apparently healthy Turkish adults and comprised in small part subjects with coronary heart disease (CHD). Overall mean values were reported as 38.3 mg/dl in 2119 men, and 45.5 mg/dl in 527 women (2). In the 2001/02 cohort of the Turkish Adult Risk Factor Study (3) having a mean age 52 ±12 years, mean concentrations were found to be 38.0 mg/dl in 1137 men and 45.3 mg/dl in 1225 women. A rise by 1 to 1.5 mg/dl per decade of age was noted in both genders.

These values as a whole represented approximately 20% lower levels than in German or US adults. Though Turks have several environmental factors that tend to cause a decline in HDL-C, such as cigarette smoking, abdominal obesity, high triglyceride levels and sedentary lifestyle, it was proposed by the group of Mahley, and generally believed, that genetic factors were the major determinant of variations in HDL-C. For instance, interaction of the TaqIB polymorphism of CETP of the common B1B1 genotype with hypertriglyceridemia or obesity was shown to modulate HDL-C to lower levels among Turks (4). For the past 3 years, the Turkish Adult Risk Factor Study adopted the direct measurement method (without precipitation), which yields 2-3 mg/dl higher values. Mean HDL-C concentrations in the current cohort were 40.4 ±10 and 48.2 ±12 mg/dl in males and females, respectively.

In the past few years several studies, none population-based, were either consistent with the stated HDL-C levels or turned out to provide higher concentrations so that some controversy was generated. One of the latter studies, the ICEBERG study was on coexisting dyslipidemia in hypertensive patients. It was reported that, in 943 predominantly female patients, mean HDL-C levels were 49.5 mg/dl. These represented roughly 7 mg/dl higher values than epidemiologic data, yet did not refer to the general population (5).

Uzunlulu et al. (1) aimed to contribute to the issue of low HDL-C levels among Turks in a study on subjects with or without coronary artery disease (CAD) documented by coronary angiograms who sought treatment or advice in two hospitals. In a total of 420 subjects (mean age 58 years), HDL-C levels averaged

45 mg/dl in individuals with CAD, who formed the majority of the study sample. Women were reported to have a mean 47.7 mg/dl of HDL-C, thus exhibiting 2-mg/dl higher values than in the population-based studies a decade ago, a difference that may well be accounted for merely by the direct measurement method. In men, of whom only 43 were described as healthy, an existing difference of 5 mg/dl in HDL-C between the studies cannot be convincingly ascribed to indicating a change in levels of Turkish males, especially in view of the fact that the study sample had mean triglyceride levels as low as 126 mg/dl, comprised cigarette smokers as low as 13%, and information was missing on alcohol usage and waist circumference data all of which affect HDL-C concentrations substantially. Just as the average fasting glucose levels of 110 mg/dl found in the study would not represent the general Turkish population free of CHD, it is highly unlikely that the reported HDL-C levels do.

Nonetheless, the generated debate on the "true" levels of HDL-C among Turks should continue and may prove beneficial in a topic which concerns the estimated third biggest factor of population-attributable CHD morbidity (6).

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References

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Author's reply

Dear Editor,

We would like to thank the author of the Letter to the Editor for comments on our manuscript.

As we noted in the original article, our aim was not to detect the average HDL cholesterol levels of Turkish population. We completely agree with the authors that our study is not an epidemiological, population-based study, and the results cannot be extrapolated to the entire population. However, the average high density lipoprotein (HDL) cholesterol of patients with coro-

nary artery disease is not expected to be higher than the general population. Our HDL cholesterol results indicate the minimum limit of the population average. Also Mahley et al elegantly showed that HDL cholesterol levels of Turkish women in particular are not as low as ten years ago.

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