

## **Non-HDL Cholesterol, a Hallmark of Low CHD Risk, and Increased Dementia among Old Age Survivors**

Goldbourt, Uri

*Tel Aviv University Medical Faculty, Neufeld Cardiac Research Institute, Tel Hashomer, Israel*

Background: In a Meta analysis performed by the ERFC research group records were supplied on 302,430 people from 68 long-term prospective studies. Adjusted HR for CHD associated with top baseline serum non-HDL cholesterol (non-HDLC) 1.50 (95% CI, 1.39-1.61) indicating useful prediction of subsequent CHD events without regard to triglycerides. Late-life ramifications of non-HDLC remain controversial.

Methods: Patients. We looked at rates of 5-yr CHD incidence, as well as 23-yr fatal CHD in our study of 10,000 men, civil servants, aged 40-65 in 1963, as well as the prevalence of dementia among survivors 37 years later, in relation to serum total and non-HDLC cholesterol. Age-and multivariate-adjusted odds ratios for these endpoints, associated with blood cholesterol and cholesterol based indices, were estimated using logistic regression. Corresponding hazard ratios (HR) for long-term fatal CHD were estimated using Cox's regression.

Results: 5 yr incidence of CHD was 27, 31, 48 and 68 per 1000 in the first to fourth quartile of total serum cholesterol; and 30, 33, 41 and 64 in corresponding non-HDLC percentiles. Corresponding age-adjusted odds ratios for non-HDLC were 1, 1.04, 1.23 and 1.93, increasing to 1, 1.12, 1.32 and 2.23 upon adjustment for smoking, blood pressure and baseline diabetes (p for trend<0.0005). CHD mortality over 23 years was similarly and more strongly related to non-HDLC (1, 1.50, 1.77 and 3.05). Dementia prevalence rates among men (N=1714, including 307 demented) who survived till 1999/2000, within approximate quartiles non-HDLC, were 21.2, 16.7, 13.6 and 16.2% (p for trend=0.04).

Comment: Apparently conflicting relations of CHD incidence and long-term mortality on the one hand and survivors' dementia rates on the other hand to mid-life non-HDLC are intriguing. Research among other large population samples on mid-life blood lipids and late life dementia may shed light on the current obscure association between these outcomes.