A dual-precipitation method evaluated for measurement of cholesterol in high-density lipoprotein subfractions HDL_2 and HDL_3 in human plasma

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The dual-precipitation method for measurement of cholesterol in high-density lipoprotein subfractions HDL_2 and HDL_3 (Warnick et al., Clin Chem 1982;28:1574) was compared with quantification of cholesterol in HDL_2 and HDL_3 by zonal ultracentrifugation (Patsch et al., J Lipid Res 1974;15:356-366.) For 39 plasma specimens differing widely in their HDL subfraction cholesterol concentration, the coefficient of correlation between the two methods was 0.94 for HDL_2 –cholesterol, 0.82 for HDL_3 –cholesterol. Storage of plasma specimens at –70 degrees celsius decreased the apparent content of HDL_3 –cholesterol by 5%; no significant changes in HDL_2 –cholesterol were observed. In frozen plasma, interference by apoB-containing lipoproteins and by lipoprotein(a) was negligible. Mean weight ratios of apoA-I to cholesterol were twice as high for HDL_3 as for HDL_2 , reflecting the increased cholesterol content of HDL_2. The study suggests that quantification of HDL_2 and HDL_3 cholesterol by precipitation is appropriate for use in epidemiological studies.

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