

Abstract

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Sensitivity and specificity of pediatric lipid determinations for adult lipid status: findings from the Princeton Lipid Research Clinics Prevalence Program Follow-up Study.

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OBJECTIVE: The goal was to determine the diagnostic utility of the National Cholesterol Education Program pediatric guidelines.

METHODS: With the use of pediatric lipid data from the Cincinnati Clinic of the Lipid Research Clinics Prevalence Study and lipid and cardiovascular disease data collected for the same subjects as adults in the Princeton Follow-up Study, the sensitivity and specificity of the National Cholesterol Education Program pediatric guidelines were calculated overall and according to age. Furthermore, whether use of parental cardiovascular disease history during childhood influenced the sensitivity and specificity was assessed.

RESULTS: Overall sensitivities were 43% to 46% and specificities were 82% to 86% for total and low-density lipoprotein cholesterol levels. There was considerable variation in sensitivities according to age, with the lowest sensitivities at ages 14 to 16 years and the highest sensitivities at ages 5 to 10 years and 17 to 19 years. Results were similar whether or not the population was restricted to children with a positive parental history of cardiovascular disease.

CONCLUSIONS: Results of our analyses suggest that the sensitivity and specificity for evaluating total cholesterol or low-density lipoprotein cholesterol levels that are elevated in adulthood are not improved by selecting children with a positive parental history. These data also show the strong role that age (particularly the pubertal years between 10 and 15 years of age) plays in lipid measurements for children and adolescents. Continued prospective and longitudinal studies designed with age as well as other risk parameters are needed to determine the best guidelines for clinical screening in the future.

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