

Fasting and Non-fasting Lipid Levels Are Similar in Dyslipidemic Children



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BACKGROUND

- Dyslipidemia in childhood can lead to increased carotid artery intima-media thickness (a marker of atherosclerosis) and result in premature coronary artery disease.^{1,2,3}
- Thus, preventive measures must be implemented beginning in childhood.
- Recent studies confirm that non-fasting lipid levels are accurate in predicting cardiovascular events.^{4,5}
- Steiner et al compared fasting and non-fasting lipid levels in community based, National Health and Nutrition Examination Survey in children, and found no significant differences.⁶
- What has not been observed to date are differences, if any, in fasting and non-fasting lipid levels in children with significant dyslipidemia.

OBJECTIVE

Compare fasting and non-fasting lipid levels in dyslipidemic children attending the Preventive Cardiology Clinic.

METHODS

- Approval from the Institutional Review Board of Children's Mercy Hospital was obtained prior to data collection.
- 20 dyslipidemic children between the ages of 6-17 years who attended the Preventive Cardiology Clinic were included.

METHODS

- This clinic had recently adopted a policy of checking non-fasting lipid levels. Previous fasting lipid levels performed within a six-month period were gathered from each child's medical record.
- Fasting (12 hours) and non-fasting levels of low-density lipoprotein cholesterol (LDL), high-density lipoprotein cholesterol (HDL), and triglycerides (TG) were compared.

RESULTS

- The mean age was 13±3 years, 70% male, 70% white.

Time (Hours) Since Last Meal Before Blood Draw (Non-fasting only)

Hours	% of Children
<1	5%
1	35%
2	30%
3	10%
4	15%
6	5%

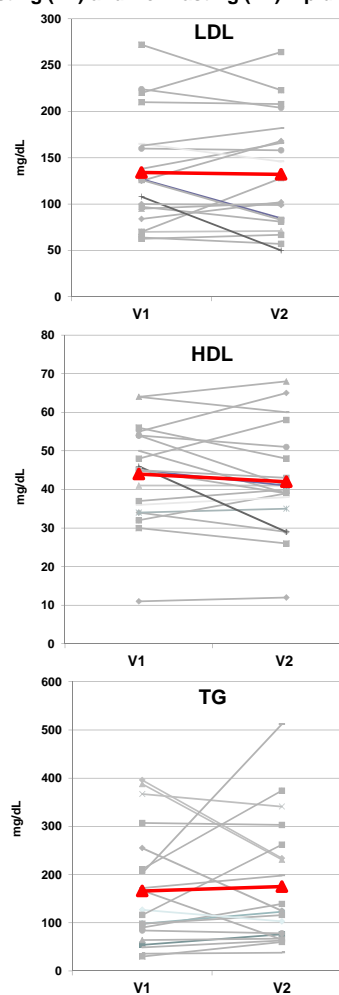
Fasting (V1) and Non-fasting (V2) Lipid Levels

Lipid Levels (P)	V1	V2
LDL (0.79)	134±60*	132±62
HDL (0.24)	44±13	42±14
TG (0.69)	166±120	175±129

*All values are mg/dL

RESULTS

Fasting (V1) and Non-fasting (V2) Lipid Levels



CONCLUSIONS

- Comparison between fasting and non-fasting lipid levels showed no statistically significant difference.
- This data supports non-fasting testing in dyslipidemic children.
- Non-fasting testing that can be performed at any time is more convenient to the child and family and may increase compliance with testing and clinic visits. Whether non-fasting testing will improve compliance with testing and clinic visits needs to be studied.

LIMITATIONS

- Small sample size.
- Fasting and non-fasting lipid levels not measured the same day.

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