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

Vanessa J. M. Smith*, Hongying Dai †, Geetha Raghuveer †
*University of Missouri-Kansas City School of Medicine
†Children’s Mercy Hospital and Clinics, Kansas City, MO

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

- 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.
- 5% of children had their last meal less than 1 hour before blood draw.
- 30% had their last meal 2 hours before blood draw.
- 15% had their last meal 4 hours before blood draw.

<table>
<thead>
<tr>
<th>Lipid Levels (P)</th>
<th>V1</th>
<th>V2</th>
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<tbody>
<tr>
<td>LDL (0.79)</td>
<td>134 ± 60*</td>
<td>129 ± 62</td>
</tr>
<tr>
<td>HDL (0.24)</td>
<td>44 ± 13</td>
<td>42 ± 14</td>
</tr>
<tr>
<td>TG (0.69)</td>
<td>166 ± 120</td>
<td>175 ± 129</td>
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*All values are mg/dL

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.

REFERENCES