LIPOPROTEIN PATTERNS
AND ATHEROSCLEROSIS

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Lecture given at Georgetown University Hospital

Sponsored by
THE DIVISION OF CARDIOLOGY
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PREMATURE AThEROMAS

RISK FACTORS

1. HYPERLIPIDEMIA
2. CIGARETTE SMOKING
3. HYPERTENSION
4. DIABETES

O PROTEIN

HYPERLIPIDEMIA
DECISIONS ABOUT HYPERLIPOPROTEINEMIA

1. What is the Type?
2. Primary vs. Secondary
3. Is it Familial?
4. Treatment

DECISIONS ABOUT HYPERLIPOPROTEINEMIA

1. What is the Type?
   a. Always do C, TG
   b. Always look at serum
   c. Sometimes do lipoproteins

DETECTION OF ALL HYPERLIPOPROTEINEMIA
BY LIPIDS ALONE*

<table>
<thead>
<tr>
<th>Lipid</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>60%</td>
</tr>
<tr>
<td>Triglyceride</td>
<td>70%</td>
</tr>
<tr>
<td>Cholesterol and Triglyceride</td>
<td>96%</td>
</tr>
</tbody>
</table>

*Using Age Corrected Limits
**TYPE II**

*4. BETA-LP INCREASED

5. pre-beta normal or increased

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**TYPE II**

1. C increased

2. TG Normal or Increased (≤500)

3. Plasma clear

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**TYPE III**

1. C, TG increased

2. C/TG ~ 1

3. Plasma turbid, with faint cream layer
TYPE III

4. Broad beta band
   pre-beta increased ±

* 5. BETA FLOATING AT
   D 1.006

DECISIONS ABOUT HYPERLIPOPROTEINEMIA

2. Primary vs. Secondary
TYPE II PHENOCOPIES

DIETARY EXCESS
HYPOTHYROIDISM
NEPHROSIS
DYSGLOBULINEMIA
HEPATIC DISEASE

TYPE III PHENOCOPIES

UNCONTROLLED DIABETES
HYPOTHYROIDISM ?

TYPE IV PHENOCOPIES

DIABETES
HYPOTHYROIDISM
DYSGLOBULINEMIAS
CALORIC EXCESS
ALCOHOL EXCESS

DECISIONS ABOUT HYPERLIPOPROTEINEMIA

3. Is it Familial?

Familial Type II
Relatives of 134 Propositi:

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>II</th>
<th>III</th>
<th>IV</th>
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<tbody>
<tr>
<td>Parents</td>
<td>44</td>
<td>46</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Sibs</td>
<td>89</td>
<td>93</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Children</td>
<td>140</td>
<td>140</td>
<td>0</td>
<td>5</td>
</tr>
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Familial Type IV
Parents and Sibs of 42 Propositi:

<table>
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<tr>
<th></th>
<th>N</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents and Sibs</td>
<td>70</td>
<td>65</td>
<td>0</td>
</tr>
</tbody>
</table>
DECISIONS ABOUT HYPERLIPIDEMIA

1. What is the Type?
   a. Always do C, TG
   b. Always look at serum
   c. Sometimes do lipoproteins

2. Primary vs. Secondary

3. Is it Familial?

4. Treatment
   a. Diet
      1) calories
      2) content
   b. Drugs

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TYPE III

TREATMENT

1. DIET - Ideal Wgt
   Hi P/S
   Low Chol
   Limit CHO

2. DRUG - Chlofibrate
   Nicotinic Acid

---

TYPE II

TREATMENT

1. DIET - Hi P/S
   Low Chol

2. DRUG - Cholestryramine
   Nicotinic Acid
   d - Thyroxine
   Chlofibrate
TYPE IV
TREATMENT

1. DIET - Ideal Wgt
   Limit CHO
   Limit Alcohol

2. DRUG - Chlofibrate
   Nicotinic Acid

DECISIONS ABOUT HYPERLIPOPROTEINEMIA

1. What is the Type?
2. Primary vs. Secondary
3. Is it Familial?
4. Treatment