

8. Lipid Management

A. Adult Treatment Panel Guidelines

- Cholesterol - Desirable <170, borderline is 171-200, and high is >200
 - Non HDL Chol - Optimal < 100 mg/dl
 - LDL - Optimal <70, borderline is 71-130, and high is >130, very high >160
 - HDL - Low < 40 mg/dl, High > 60
 - Triglycerides - Good < 150, borderline 150-199, high 200-499, very high >500, critical >1000
-
- LDL goal is <130 if less than 2 risk factors
 - LDL goal is <100, if 2 or greater risk factors for CAD.
 - LDL goal is <70, if vascular disease or diabetes.
-
- Risk factors DM, HTN, FH, Age (male >45, and female>55), cigarette smoker, HDL <40.
 - HDL >60 is a negative risk factor and can be subtracted from the risk factors.

Primary Prevention Therapy: First Exercise and Diet

B. Secondary Prevention: (Adult Treatment Program of July 2004)

- Best Goal is a Non-HDL Cholesterol of < 100 mg/dl
- Goal is an LDL < 70, HDL > 40, Triglycerides < 150

C. Etiologies:

Hypothyroidism & Nephrotic syndrome, High carbohydrate diets-Elevate Triglycerides, suppresses HDL

D. Step Therapy: Simvastatin 40 → Vytorin 10/40 → Vytorin 10/80 → + Niaspan, + Fenofibrate...

E. Physical Findings:

Xanthelasma = Any type

Tendon Xanthoma = Type IIa, Familial Hypercholesterolemia,

Palmar Xanthoma = Type III, Familial Dysbetalipoproteinemia, IDL (beta-VLDL)

Eruptive Xanthomas = Type IV, Familial Hypertriglyceridemia

F. Pharmacologic Treatments:

1. **HMG-Co A inhibitors** (Atorvastatin, Fluvastatin, Lovastatin-1987, Pravastatin, Rosuvastatin, Simvastatin)
 - Inhibiting synthesis of cholesterol, reducing hepatic cholesterol, stimulates of LDL receptors.
 - Primarily lower LDL can slightly raise HDL. High dose statins also lowers Triglycerides.
 - Side effects minimal, elevated transaminases, myopathy especially with Gemfibrozil
2. **Niacin/Nicotinic Acid** (NIASPAN-1997) (Lovastatin & Niacin/ ADVICOR-2001)
 - Lower LDL, Lower Triglycerides, and effective medication at raising the HDL.
 - Side effects: Flushing, itching, elevated LFT'S, glucose intolerance, hyperuricemia, GI.
 - Contraindicated in chronic liver disease, caution in Diabetes
3. **Bile Acid Sequestrers** (Colesevelam/WELCHOL-1999, Cholestyramine, and Cholestipol)
 - Lower LDL and slightly raise HDL
 - Side effects are mostly GI and causing problems with absorption of other meds
 - Contraindicated for patients with markedly elevated Triglycerides.
4. **Fibric Acids** (Gemfibrozil/LOPID, Fenofibrate/TRICOR-1998)
 - Increases activity of lipoprotein lipase, leads to decreased levels of Triglycerides
 - Generally used more for prevention of acute pancreatitis, rather than for CAD.
 - Side effects include gall stone, myopathy, GI, skin rashes, elevated LFT'S.
5. **Cholesterol absorption inhibitor** (Ezetimibe/ZETIA-2002, VYTORIN-2004)
 - Reduce cholesterol-13%, HDL-0%, Tri-8%, LDL-18%,
 - Generally well tolerated

Total Cholesterol = HDL + LDL + (Trig/5)