Primary Prevention of Cardiovascular Disease

COASTAL CIMT NEWSLETTER

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"Dedicated to preventing heart attacks and strokes"

Diabetes and Cardiovascular Disease

Cardiovascular Disease (CVD) is the number one cause of death in Diabetes. 2 out of 3 people with diabetes die from heart disease or stroke.

Recent research has shown that the risk begins early during the period of Impaired Glucose Tolerance.

The increased risk is attributable to associated risk factors such as inflammation, BP, and dyslipidemia.

The United Kingdom Prospective Diabetes Study found that the order of risk factors for development of coronary artery disease in diabetes is:

1. Elevated LDL
2. Decreased HDL
3. Elevated Hb A1c
4. Elevated BP
5. Smoking

Although glycemic control is essential to reducing the development and progression of cardiovascular disease in Type II diabetes, lipid management plays an even larger role .

In diabetics, physicians may be lulled into a false sense of security, with "reasonably normal" lipid parameters.

National guidelines recommend statin therapy in all patients with Type II diabetes, but statins often are inadequate to reach HDL and Triglyceride goals.

Fibrate Studies

Interest in Fibrates for primary prevention of cardiovascular events dates back to 1987, when gemfibrizole was shown to reduce the rate of cardiovascular events in the Helsinki Heart Study and VA-HIT trial. The Diabetes Atherosclerosis Intervention Study was a successful angiographic study using fenofibrate.

There have been many questions regarding the failure of fenofibrate (Tricor) to show benefit in the FIELD Study.

It is noteworthy, that the patients in the FIELD Study were already taking a statin. The addition of fenofibrate did not show additional benefit to a statin alone in most patients. Subgroup analysis showed that patients with TG>200 and HDL<42 did benefit.

The ACCORD Study (Action to Control Cardiovascular Risk in Diabetics) looked at adding fenofibrate to simvastatin in Type II Diabetes.

While the primary outcome rate did not differ between the groups with and without fenofibrate, there was a significant benefit in patients with the highest triglycerides (>200) and the lowest HDL (<34).

Take Home Message:

1. Routine use of fenofibrate in addition to statins in Type II DM is not indicated
2. Patients with dyslipidemia who do not reach goal with statin may benefit from the addition of fibrates.

SPECIAL POINTS OF INTREST

- **MI is the leading cause of death in Type II Diabetes**

- **Increased CVD risk is present in prediabetes.**

- **Diabetics with High TG and Low HDL may benefit from adding fibrate to a statin**

CASE STUDY: A Picture Is Worth More Than Numbers

B.W. is a 50 year old overweight woman with 20 year history of poorly controlled Type II Diabetes. Lipid medication was never started because her cholesterol numbers were "so good" (table) Because of recommendations that DM be considered a CVD risk equivalent, a CIMT was performed and found to be at the 84th percentile for age. Zocor 40 mg per day was started. 6 months later she was admitted with chest pain and found to have significant coronary artery disease. A drug-eluting stent was placed.

	01/06	01/08
T Chol	123	175
Trig	45	112
HDL	80	101
LDL	34	64
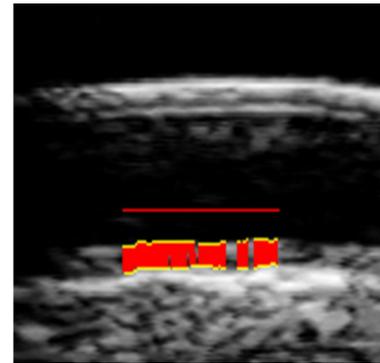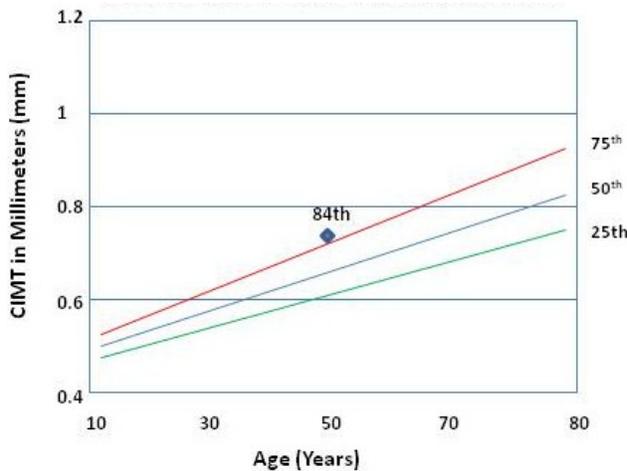
Carotid CIMT 84th percentile for age

American Diabetes Association Recommendations for Cholesterol

1. Lifestyle modification with diet and exercise is recommended for all diabetics
2. Statin therapy should be added to lifestyle therapy, regardless of baseline lipid levels.
   LDL cholesterol goal should be <70 or 30 – 40% reduction from baseline for diabetic patients with overt CVD, and also for diabetics over age 40 without overt CVD who have other cardiovascular risk factors.
3. Triglycerides <150 and HDL >40 in men and >50 in women are desirable.
4. If targets are not reached on maximally tolerated doses of statins, other lipid-lowering agents should be added.

Interpreting CIMT Test Results - SHAPE Guidelines

	CIMT	Age Comparison	Internal Carotid	Cholesterol Goal	Re-screen
Known Risk Factors	<1 mm	<50th percentile	No Plaque Seen	LDL 130	5 Years
Mod High Risk	<1 mm	50-75th percentile	No Plaque Seen	LDL<100	3-4 Years
High Risk	>1 mm	>75th percentile	+/- Mild Plaque	LDL<70	2 Years
Very High Risk	>1 mm	>95th percentile	+/- Significant Plaque	LDL<70 HDL>50	1 Year, Screen Family