

Primary Prevention of Cardiovascular Disease

COASTAL CIMT NEWSLETTER

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February 2009

"Dedicated to preventing heart attacks and strokes"

MEASURING RISK

Cholesterol is the single most important risk factor in determining an individual's cardiovascular risk. However, it is weak as a stand alone value. Framingham Risk Assessment increases the predictive value by adding blood pressure, gender, age, and smoking to cholesterol level, but is still only 65% accurate. Including diabetes, family history and cardio

CRP increases the accuracy, but not enough.

80% of cardiovascular events occur in individuals considered low to intermediate risk by the Framingham Risk Score. It is now known that *measuring atherosclerosis directly* is a more accurate means of determining cardiovascular risk. Knowing an individual's true vascular risk will lead to more effective treatment.



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THE JUPITER STUDY

The Jupiter study, released in November 2008, confirmed the role of inflammation in the development of atherosclerosis. Some experts anticipate an adjustment to preventive care guidelines.

The Jupiter study enrolled over 17,000 people with normal lipids, defined as an LDL less than 130 and HDL greater than 40. Each

participant's cardio CRP was greater than 2. They were randomized to treatment with either placebo or Crestor 20 mg per day. Those taking Crestor had a 44% reduction in cardiovascular events, which is greater than expected from lipid lowering alone.

This confirms that additional risk factors, including inflammation, have a significant role in

the development of cardiovascular disease.

We all have patients seemingly at low risk by traditional risk factor analysis who unexpectedly have a myocardial infarction, while those we consider high risk may live to old age without a cardiovascular event. They must be protected by something that has not been discovered.

SPECIAL POINTS OF INTEREST

- Half of all heart attacks occur in patients with normal lipid panels.
- Turbulence of blood flow, and endothelial inflammation play a major role in atherosclerosis

INTERPRETING TEST RESULTS

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

CASE STUDY: MRS. SMITH

Mrs. Smith, a 48 year-old female, has been healthy except for occasional depression. She adheres to a good diet and exercise program, works with a trainer three times a week, does not smoke, and has normal blood pressure and glucose. Though she thinks of herself as being very healthy, her lipids are somewhat concerning with a TC 212, TG 99, HDL 43, and LDL 149. Her Framingham Risk Score suggests her cardiovascular risk is average for her age.

Recently her mother, 77 years of age, needed a coronary artery stent. When I learned this, I suggested she consider getting a Carotid Intima-Media Thickness Test (CIMT). She was excited to learn there is now

a sophisticated ultrasound test that directly measures atherosclerosis.

We were both shocked when her CIMT measurement was over 1 mm, placing her in the 95th percentile of women her age. When she saw Dr. Talreja for a second opinion, he



Mrs. Smith

obtained a 64 slice CT angiogram of her heart which did not reveal any significant lesions. She is now taking Simcor 20/1000 mg each night.

CIMT precisely measures the cholesterol plaque in the intima-media wall of the common carotid artery long before it can be detected with standard PVL of the Carotid Artery. True cardiovascular risk is determined by comparing the results to a large database of others of the same age and gender. The test results are reported following the guidelines suggested by the Screening for Heart Attack Prevention and Education (SHAPE) Task Force. (American Journal Cardiology 2006;98 [suppl]:2H-15H) .

Case Highlights

1. Beware of mild lipid abnormalities — The HDL and LDL are not ideal, but they are not suggestive of “very high risk” of cardiovascular disease.
2. CAD in parents, even after the traditional cut off of 50 per men and 60 for women, should raise concern.
3. Offer CIMT to your health conscious patients — They will always appreciate your caring effort, and the opportunity to discover their true risk of cardiovascular disease. And as in this case, accurate early detection can lead to effective preventive therapy.