

Primary Prevention of Cardiovascular Disease

COASTAL CIMT NEWSLETTER

Brant Thomas MD, Medical Director

September 2009

"Dedicated to preventing heart attacks and strokes"

Ounce of Prevention vs Pound of Cure

Cardiovascular Disease (CVD) is the number one cause of death and disability in the United States. While U.S. physicians perform more invasive procedures such as Coronary Bypass Grafting and Percutaneous Coronary Interventions than any other country, there has not been a corresponding reduction in CVD mortality.

Most heart attacks and strokes are thought to occur in asymptomatic patients with less than 50% narrowing of the artery. Stress tests are not usually positive until the artery is at least 70% occluded.

Clearly the answer is not in performing more procedures but in prevention.

The four major modifiable risk factors for atherosclerosis (fatty cholesterol plaque) are lipids, blood pressure, diabetes, and smoking. It is well known that treating these slows atherosclerosis and decreases events.

A prospective study from the Nurses' Health Study reviewed in the July 22, 2009 issue of JAMA followed 116,671 nurses over 14 years. During this time there were 12,319 new cases of hypertension. The strongest risk factor was being overweight

(BMI >25) or obese (BMI > 30).

The characteristics NOT associated with development of hypertension were normal weight, regular exercise, a diet rich in fruits and vegetables, mild alcohol intake, rare use of NSAID's (such as ibuprofen) and folic acid. They estimate that 78% of new cases of hypertension in women would be prevented if all six factors were controlled.

The key to effective prevention is early identification of the truly vulnerable patient, coupled with aggressive modification of their cardiac risk factors.

In This Issue:

Ounce of Prevention	1
Skewed Perspective	1
Picture perfect	2
Case Study	2

SPECIAL POINTS OF INTEREST

- **MI remains the leading cause of mortality.**
- **Healthy lifestyle was shown to prevent 78% of new cases of hypertension in Nurses' Health Study.**

Weight—Our Skewed Perspective

Controlling lifestyle, especially weight is a major challenge. Over 55% of the adults in the United States are now overweight or obese.

As Americans become heavier each year, the U.S. perspective of weight is becoming skewed.

When asked, a majority of Americans judged a picture of an overweight 190 lb (BMI 27) male as to be "about right", while the ideal 155 lb male, we learned about in medical school, was viewed as "underweight".

(Overweight is defined as BMI 25 - 30, and obesity is

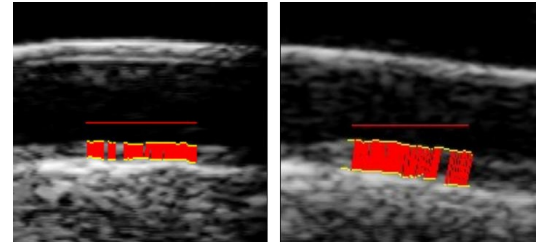
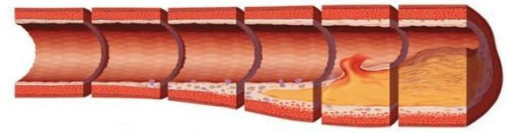
defined as BMI greater than 30.)

Half of overweight 60 year-olds have metabolic syndrome (prediabetes), a well known cause of cardiovascular disease. Fortunately, metabolic syndrome is largely reversible with weight loss and exercise.

A Picture is Worth a Thousand Words

Most patients are willing to concede that they “need to lose a few pounds.” They nod their head in understanding, when told their blood pressure, cholesterol numbers and blood sugar. But patients who enact permanent lifestyle changes to reduce their cardiovascular risk based on this information are rare.

We have seen a tremendous response by patients, when they receive the results of their Carotid Intima -Media Thickness (CIMT) test which shows the amount of cholesterol plaque in their carotid artery. When they learn their “Artery Age”, their atherosclerotic burden is no longer theoretical; it’s personal. Patients shift from being defensive to being open and eager to improve their exercise and diet habits.



Carotid CIMT decreased 50% over 10 years in GT with aggressive risk factor modification

CASE STUDY: Barbara Darr



Barbara Darr presented in 2002 weighing 186 pounds, height 5 feet 5 inches, BMI 31, and a family history of hypertension. Her lipid panel was TC 106, TG 127, HDL 42, LDL 119, TC/HDL 4.4. She was an accountant, and a CFO of a medium-sized organization. She was started on Nadolol 20 mg for BP and migraine prevention.

Barbara Darr had a CIMT measurement of 0.760 mm putting her at the 76th percentile for women her age. I prescribed Lipitor 20 mg. She had a hard talk with herself and her husband. She decided to alter her work schedule, improve her diet, and really get into exercise.

She lost 41 pounds, and her BP decreased so we stopped the Nadolol. She now weighs 145 pounds with a BMI of 24. Her

lipid panel is TC 183, TG 58, HDL 61, LDL 108, TC/HDL 3.0. Barbara Darr is keeping her BP and lipids under control with lifestyle changes and avoiding medication.

We will recheck her CIMT in two years to follow her atherosclerosis, and start medication at that time if she progresses.

Interpreting CIMT 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