HEART DISEASE AND INFLAMMATION

Coronary heart disease (CHD) is presently the leading cause of death in the U.S. for adult men and women. CHD is also referred to as coronary artery disease, heart disease and arteriosclerotic disease. CHD occurs when the small blood vessels that supply oxygen and blood to our heart narrow and harden. This is caused by a buildup of waxy plaque. Over time, this can cause rupturing of the blood vessels, heart attacks and other fatal conditions. Heart disease is the leading cause of death for both men and women in the U.S. Even more frightening is that according to the Centers for Disease Control and Prevention (CDC), someone has a heart attack or myocardial infarction (MI) every 40 seconds. It's important to recognize the signs and symptoms in men and women. In women, symptoms can include shortness of breath, pain in one or both arms, nausea/vomiting, sweating, dizziness or unusual fatigue, confusion. In men, symptoms can include substernal chest pressure/pain that can radiate to the neck, jaw, arms, and back, sweating, nausea/vomiting, cold/clammy skin.

For the past several decades, clot-busting prescription drugs, tiny balloons to open up arteries and bypass surgeries are all on the rise. These treatments really address the symptoms of CHD but not really the cause. So, what is the cause....elevated INFLAMMATION levels! Although we have always been led to believe that cholesterol is the main trigger for heart disease, the reality is that cholesterol is found in every cell in our bodies and is essential to good health. It is needed to make hormones, protect cell membranes, digest food and manufacture vitamin D. Your liver manufactures most of the cholesterol your body needs from nutrients in your food. According to the 2015-2020 Dietary Guidelines for Americans, cholesterol is not considered a nutrient of concern for overconsumption. They also advise limiting sugar to 10% of one's diet. This works out to be around 50 grams of sugar or 200 calories in a 2000 calorie diet. However, 50 grams of sugar is still high enough to cause inflammation in the human body. Companies like Novartis Pharmaceuticals and Brigham and Women's Hospital are doing and have done clinical trials with medications designed to reduce inflammation and so reduce the risk of cardiac events and interventional procedures. Let's not forget, however, that all drugs have side-effects, sometimes fatal ones, as did these drugs.

So, let's look at some evidence from other clinical trials where no medications were used. According to a review of studies in The New York Times (11/14/16) regarding the genetic risk of heart disease, all conclusions point to the fact that living a healthy lifestyle that includes exercise, fruits, vegetables and minimal grains, as well as not smoking, can

lower one's risk of heart disease even if you are genetically predisposed. In populations that eat more of an unprocessed diet than we do, doctors find less inflammation-caused atherosclerosis and heart disease. We now know that inflammation and heart disease symptoms are the result of free radical damage or oxidative stress and low antioxidant levels in the body. Poor nutrition and poor lifestyle choices result in antioxidant levels being lower than those of free radicals. Lifestyle choices which can include lack of sleep, unhealthy fats, smoking, alcohol and environmental pollutants. One of my favorite topics is healthy fats and how we have been conditioned for years to avoid fats in our diet. However, that is a topic for another article. Keeping in mind that inflammation is the primary cause of CHD, let's review the lab tests that are more important than total cholesterol in determining your risk of CHD:

1. HS-CRP (High Sensitivity-C-Reactive Protein) is one of the best measures of overall inflammation.

2. Cholesterol ratios such as HDL/cholesterol and triglyceride /HDL.

- 3. Fasting insulin level.
- 4. Fasting blood sugar level.

5. Iron level. Since iron creates an environment for oxidative stress, excess iron may increase your inflammation and increase your risk of heart disease.

6. Homocysteine level. Homocysteine is an amino acid and a breakdown product of protein metabolism. If levels are high, they can increase your risk of heart attack or stroke. High homocysteine levels are thought to contribute to plaque formation by damaging arterial walls.

In future articles, we can outline a plan for preventing, reducing or reversing CHD. For now, let's all reduce our intake of refined sugar, alcohol and grains. Try eating a more "paleo" or "keto" diet, you'll like what it does for your heart, waistline and brain.





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