STRAUSS NATURALS

Dr. Michael Garko, Ph.D.

CORONARY ARTERY DISEASE

Facts About the Heart & Circulatory System

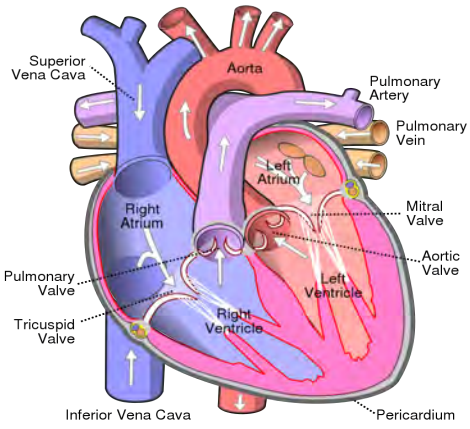
- Although it is only a bit larger than a fist, each day the human heart on average expands and contracts about 100,000 times and pumps approximately 2,000 gallons (7,571 liters) of blood throughout the vast circulatory system of the body.
- If the network of blood vessels of the circulatory system were laid out end-to-end, it would extend for a distance approximately equivalent to 60,000 miles or more than twice around the earth.
- Over a 70-year period the heart beats more than 2.5 billion times.

The above facts about the extraordinary workload of the heart underscore the importance of keeping your heart healthy and free from disease, especially coronary heart disease (CAD). There are few human-made mechanical pumps that match the durability and reliability of the heart. Nevertheless, we are prone to cardiovascular disease (CVD) events such as heart attacks and strokes attributable to CAD, with CVD-related events accounting for one-third of deaths worldwide.

Know the Difference in Cardiovascular Conditions & Diseases

There is more than a little conceptual confusion regarding conditions and diseases related to cardiovascular health and what they signify. The three that are especially confusing because they are used interchangeably are cardiovascular disease, heart disease and coronary heart disease.

- **Cardiovascular disease (CVD)** refers to conditions and diseases associated with the heart and blood vessels including angina, aortic aneurysms, cardiomyopathy, carditis (e.g., endocarditis, myocarditis), cerebrovascular disease, congenital heart disease, coronary heart disease, heart attack, high blood pressure and stroke.
- **Heart disease** refers to conditions and diseases affecting specifically the structure and function of the heart, with CAD being the most common. The phrase “heart disease” is frequently and incorrectly used to mean CAD.
- **Coronary artery disease (CAD)**, also known as coronary heart disease (CHD) is a disease where the coronary arteries (i.e., arteries supplying blood to the heart) become hardened and narrowed caused by atherosclerosis (a form of arteriosclerosis or general hardening of blood vessels), a process whereby there is an accumulation of plaque inside the tunica intima, which is the innermost layer of the arteries composed of layer of endothelial cells surrounding the blood as flows through the arteries.



STRAUSS NATURALS

Dr. Michael Garko, Ph.D.

CORONARY ARTERY DISEASE

Facts About CAD

- Most common form of heart disease in the U.S, Canada and globally.
- A leading cause of death in the United States, Canada and globally.
- Atherosclerosis is a primary cause of CAD and a leading cause of mortality and morbidity globally.
- Atherosclerosis is a primary cause of CAD and a leading cause of mortality and morbidity globally.
- Signs and symptoms include heart attack, cardiac arrest, chest pain (angina), shortness of breath (dyspnea), fatigue.
- Overtime weakens the heart muscle leading to arrhythmias, cardiac arrest, cardiogenic shock, and heart failure.
- Like high blood pressure, CAD is also a “silent killer” because many people may not have any symptoms until they experience a heart attack.
- In terms of coronary events (e.g., myocardial infarction/heart attack & death) associated with CAD, approximately 635,000 people experience a first-time heart attack and 300,000 individuals suffer a recurrent heart attack annually.

CAD Risk Factors

The modifiable risk factors associated with CAD are as follows and are the same as risk factors associated with atherosclerosis:

- High blood levels of low-density lipoprotein (LDL) cholesterol
- High blood levels of lipoprotein a
- Low blood levels of high-density lipoprotein (HDL) cholesterol
- Diabetes mellitus (particularly type 2)
- Smoking
- Obesity
- Physical inactivity
- High level of apoprotein B (apo B)
- High blood levels of C-reactive protein (CRP)

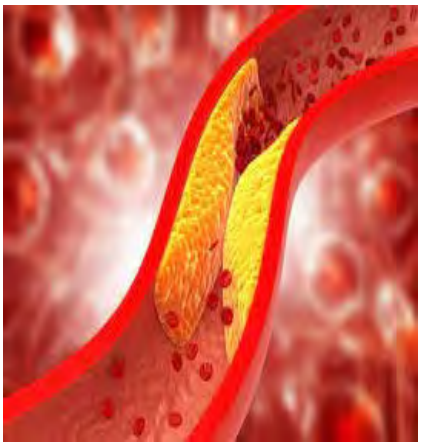
The non-modifiable risk factors for CAD include:

- **Age** - Prevalence increases after 35 years of age for both men and women where the lifetime risk of developing CAD after 40 years of age is 49% men and 32% for women
- **Gender** - Men at increased risk compared to women
- **Ethnicity:** Blacks, Hispanics, Latinos, and Southeast Asians at an increased risk of morbidity and mortality from CAD
- **Family history** – Those with a family history of developing CAD before 55 years of age are at increased CAD mortality risk.

STRAUSS NATURALS

Dr. Michael Garko, Ph.D.

CORONARY ARTERY DISEASE



Strauss Heartdrops® - Atherosclerosis & AGE

- Atherosclerosis, a hallmark of CAD, is an artery-occluding, pro-inflammatory chronic disease characterized by calcified atherosclerotic lesions (i.e., calcified plaque) in the coronary arteries, resulting in the hardening and narrowing of the arteries, the severity of which is measured by a coronary artery calcium (CAC) test.
- At the same time, aged garlic extract (AGE) found in **Strauss Heartdrops®** has become a hallmark in treating, preventing and managing atherosclerosis, thereby, being cardioprotective against CAD.
- AGE contains a number of biologically active sulfur-containing amino acids, such as S-allylcysteine (SAC), S-1-propenylcysteine (S1PC) and S-allylmercaptocysteine (SAMC) documented to improve atherosclerosis by way of their anti-inflammatory and antioxidant properties.

With respect to atherosclerosis as the mechanism of action for CAD, a compelling body of research when taken together has demonstrated that AGE and its sulfur-containing compounds serve to:

1. **Slow and reduce coronary artery calcification progression**
2. **Reduce and regress low attenuation plaque** (i.e., noncalcified fatty plaque)
3. **Attenuate moderate or severe arterial inflammation**
4. **Reduce arterial-related oxidative stress**
5. **Prevent platelet aggregation leading to arterial blood clots which increase the risk for heart attacks and strokes**
6. **Reduce CAD- and heart attack-related risk factors such as pro-inflammatory cytokines** (e.g., C-reactive protein/CRP, tumor necrosis factor alpha, interleukin-1 and -6) even in those who are at cardiovascular risk and already suffering from hypertension, hyperlipidemia, hyperglycemia, diabetes/insulin resistance and metabolic syndrome.

Other Medicinal Ingredients in Strauss Heartdrops®

In addition to AGE, **Strauss Heartdrops®** contains a blend of six other medicinal ingredients that work synergistically with one another and AGE to counteract CAD by having a direct and positive effect on atherosclerosis in the following ways:

- **Hawthorn Fruit, Flower, Leaf** - Lowers high blood pressure, reduces LDL cholesterol, reduces oxidative stress in the arteries
- **European Mistletoe Leaf** – Reduces vascular inflammation, reduces blood pressure
- **Motherwort** – Reduces blood pressure, prevent blood clots, reduces platelet aggregation
- **Cayenne Fruit** – Reduces blood pressure
- **Bilberry Leaf** - Prevents oxidation of LDL cholesterol, prevents buildup of plaque in coronary arteries, prevents blood clots, balances blood pressure
- **White Willow Bark** – Reduces inflammation, helps prevent blood clotting

STRAUSS NATURALS

Dr. Michael Garko, Ph.D.

CORONARY ARTERY DISEASE

Strauss Heartdrops® - Arterial Health & Support

- The human heart is a phenomenally powerful pump supplying fresh oxygenated, nutrient rich blood to every cell, tissue and organ in the body. It is paradoxically durable and capable of a sustained workload but vulnerable and susceptible to CAD.
- CAD is a direct consequence of atherosclerosis, an inflammatory disease process involving the gradual accumulation of plaque taking the form of lipid laden lesions (atheroma's) on the inner walls of the coronary arteries.
- CAD contributes to premature aging of the arteries which in turn accelerates the aging of the cells, tissues, organs and organ systems of the body
- If your arterial health is compromised by CAD, then your overall health is compromised in that CAD inhibits the delivery of life-giving oxygenated blood and nutrients throughout the body via the arteries.
- You are only as healthy and old as your arteries.
- **Strauss Heartdrops®** promote arterial health by providing overall support for the proper structure and function of your arteries.

Prevention, Treatment & Management of CAD

When it comes to the prevention, treatment and management of CAD (i.e., hardening and narrowing of the coronary arteries caused by calcified plaque), AGE, a significant and substantial component of **Strauss Heartdrops®**, has been demonstrated to be:

- **Anti-inflammatory** (reduces inflammation associated with arterial damage)
- **Anti-atherosclerotic** (slows progression of atherosclerosis)
- **Anti-atherogenic** (prevents formation of arterial atheroma's/plaques)
- **Anti-fibrinolytic** (prevents blood clots and their blocking of arterial blood flow)
- **Anti-platelet** (prevents platelet aggregation leading to formation of blood clots in the arteries due to arterial damage)
- **Anti-hyperlipidemic** (reduces lipid levels in the blood)
- **Anti-hyperglycemic** (lowers elevated blood glucose levels)
- **Anti-oxidative** (prevents free radical/oxidative damage to LDL in the intima of endothelial cells covering the luminal surface of the arteries)
- **Anti-hypertensive** (prevents and lowers high blood pressure, a risk factor for CAD).

References available upon request. © Copyright 2023 Strauss Naturals Ltd. All Rights Reserved.