



“From The Pharmacist” – Serve You’s Educational Series on Disease States

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Coronary Heart Disease: What You Need To Know

What is Coronary Heart Disease?

Coronary Heart Disease (CHD), also known as Coronary Artery Disease, is caused by any problem that prevents the heart from getting enough blood from its coronary arteries.¹ Most often, CHD begins when deposits of fat, scar tissue, and calcium form a plaque on the inside wall of a coronary artery.² This buildup of material causes a narrowing and reduced elasticity of the artery.³ Initially, the heart must work harder to pump the necessary amount of oxygen and nutrient-rich blood through the narrowed artery. With untreated disease and as the narrowing increases, symptoms may include chest pain (also known as angina), shortness of breath, weakness, fatigue, or an irregular heartbeat. The lack of necessary blood supply may cause death to part of the heart muscle and a corresponding heart attack (myocardial infarction) or possibly a fatal heart rhythm (sudden cardiac arrest).^{2,3}

Who is affected?

CHD is the leading cause of death for both men and women in the United States and affects approximately 13 million people.³ Those with a family history of CHD are more likely to develop it themselves. Other risk factors include high blood pressure, high cholesterol, diabetes, obesity, tobacco use, and emotional stress.^{2,4} Men are four to five times more likely than women to die from CHD in their 30’s. This disparity decreases with increasing age and women comprise the majority of cases in the very elderly.¹

How will I know if I have CHD?

Symptoms of CHD vary by individual depending on the progression of disease, sex of the affected person,

and other factors.¹ The most devastating symptom of CHD is a sudden cardiac arrest or heart attack. Other signs include chest pain (angina), shortness of breath, jaw, back, or arm pain especially on the left side, weakness, and irregular heartbeat.² Females often present with chest pain, whereas males more often have a heart attack as the initial event.¹ Occasionally, a significant blockage may be present without any symptoms.²

Diagnosis

After identifying individual risk factors and symptoms during a physical exam, the doctor may choose to administer additional tests. These include simple blood tests, an electrocardiogram (EKG or ECG) to measure electrical signals that control the heartbeat, a chest X-ray, or an exercise electrocardiogram (stress test) to determine the amount of exercise needed to cause CHD symptoms.¹

Complications of CHD

Clearly, the greatest complication from CHD is death as more than 2,600 Americans die from cardiovascular-related disease each day. Depending on disease severity, those living with CHD may have difficulty with activities of daily living. Physical exertion such as climbing stairs, walking, or exercise may cause chest pain.¹

Prevention and Treatment of CHD

The prevention and treatment of CHD involves identifying and modifying as many risk factors as possible. These include eliminating tobacco use, eating a healthy diet, losing weight, and exercising regularly.² If present, diseases like diabetes and

hypertension should be controlled to minimize their impact on CHD.^{1,2,3}

Medications are used to slow the disease progression and improve the heart's function. Cholesterol-lowering statin drugs have been shown to minimize the growth and promote stabilization of fatty arterial plaques.^{1,2} This stabilization slows the progression of CHD and may prevent future heart attacks.² Aspirin may be given to prevent the blood from clotting around an artery-narrowing plaque. Such clot formation is an underlying cause of heart attack.³ Various other classes of medications are used to either decrease the heart's demand for oxygen, or increase the heart's oxygen supply by dilating the arteries. These classes include the beta-blockers, calcium channel blockers, nitroglycerin, and ACE inhibitors.^{1,2}

If CHD is advanced, or if symptoms worsen despite the implementation of risk factor modification and medication, an invasive procedure may be required to resolve the blocked artery. Angioplasty involves the insertion of a tube (catheter) into the artery followed by inflation of a balloon to restore the artery opening. If necessary, a special mesh-like device called a stent may be left in place after angioplasty which holds the artery open.^{1,2,3}

When an angioplasty is not possible in advanced CHD, a coronary artery bypass graft (CABG) may be performed. Here, a segment of vein or another artery from the patient is grafted around the blocked artery effectively allowing the flow of blood to bypass the clogged area.^{2,3}

References:

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