



Coronary Artery Disease: Diagnosis and Prevention

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Introduction

Coronary Artery Disease is a heart disease that involves the decrease in blood flow in the arteries of heart. This occurs due to atherosclerosis in which lesions are developed in the wall of the artery. This includes chest pain, heart attack and cardiac arrest. Factors that result in coronary artery disease are hypertension, smoking, diabetes, obesity, depression, consumption of alcohol. Coronary artery disease can be diagnosed with electrocardiography, coronary CT angiography, coronary catheterization, cardiac stress test. This risk can be reduced with a healthy diet, proper exercise, no smoking. Antiaggregant, beta blockers or nitroglycerin are used as medications. Decrease in the flow of blood to heart results in cell starvation known as ischemia. The cells of heart muscle may lead to death due to oxygen deficit which causes myocardial infarction. Narrowing of coronary arteries may lead to irregularities in the heartbeat known as cardiac arrhythmia. Due to Atherosclerosis, accumulation of abnormal inflammatory cells, calcium, fatty lipids occurs in the artery's lining, which results in formation of plaque. Loss of elasticity in the walls of arteries occurs due to deposition of calcium phosphate in the blood vessels. Loss of elasticity in arteries is known as Arteriosclerosis. People suffering from kidney dysfunction may die due to coronary artery disease. Cardiac syndrome X is a chest discomfort or pressure in the chest which have no signs when an angiogram is performed. It can be prevented with proper exercise, control of blood pressure, healthy diet, maintaining low cholesterol levels. High physical activity decrease risk of coronary artery disease to a certain amount. Menaquinone consumption may also reduce the risk of coronary artery disease death. The

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cause of coronary heart disease by genetics is observed to be 40-60 percent. Symptoms observed in women are anxiety, sleep disturbance, indigestion, sweating, dizziness and nausea. Coronary artery disease can be treated with coronary artery bypass surgery. This surgery is operated to restore the normal blood flow in the coronary artery. By following a proper diet, the risk of cardiovascular disease can be reduced. Intake of fruits and vegetables highly in a diet reduces cardiovascular disease upto 25%. Risk of coronary artery disease may increase due to consumption of Trans fat. Acute coronary syndrome is diagnosed in emergency department. ECG's are performed simultaneously to observe the ongoing heart muscle damage. If there is rise in the ST segment then it indicates acute myocardial infarction and is treated with angioplasty or fibrinolytic therapy. If there is no rise in ST- segment then the heart damage is indicated by biomarkers that evaluate heart function. Coronary artery bypass surgery is performed for people with disease in more than one artery. There is a chance in increase of mortality with the use of antibiotics in the secondary prevention of coronary heart disease. Dual anti-platelet therapy is used to reduce cardiovascular events than aspirin in people with myocardial infarction. Aspirin works on the risk of myocardial infarction in people having no heart disease conditions previously but there may not be change in the probability of death.

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Conflict of Interest

The authors declare no conflicts.