

Coronary Artery Disease

Overview

Coronary artery disease (also known as coronary heart disease) is the most common type of heart disease and is the leading cause of death in both men and women in the United States. Each year, more than 700,000 Americans suffer a heart attack (myocardial infarction). Heart attacks occur when arterial (blood vessel) blockages stop blood and oxygen from reaching the heart muscle—as when a clogged fuel line stops a car engine. The blockage of the coronary arteries is commonly due to atherosclerosis, or a buildup of plaque in the arteries. The process of plaque building up and causing a thickening and narrowing of the arteries begins long before a heart attack occurs. In fact, it is a gradual process that may start as early as childhood. It is increasingly recognized that some heart attacks occur due to rupture of atherosclerotic plaques—even those that before rupturing do not obstruct the flow of blood through the affected artery. When a plaque ruptures, the rapid formation of a clot occurs and the artery can become completely blocked. Whatever the underlying physiology,

rapid medical treatment in a hospital with “clot-busting” drugs and interventions (such as an angioplasty, where a balloon catheter is used to open the clogged coronary artery) not only saves lives but also lessens the heart muscle damage that follows the event.

Coronary artery disease is also the leading cause of heart failure, a condition where the heart does not pump blood effectively. Heart failure can develop after a heart attack as heart muscle becomes injured; scar tissue replaces functional muscle; and the main heart chamber, or left ventricle, is thereby weakened and less able to pump blood forward. Over time, the weakened heart will struggle to keep up with normal demands of the body in regard to blood flow and oxygen delivery. While coronary artery disease is the most common cause for heart failure, other conditions, such as high blood pressure, faulty heart valves, and abnormal heart rhythms, can cause heart failure. All of these conditions require ongoing monitoring and medical care.