

Atherosclerosis-Heart and Blood Vessels Complications

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Description

Atherosclerosis means hardening and narrowing of the arteries. The blockage of arteries which carries blood to different organs, may lead to several health complications. It is also termed as atherosclerotic cardiovascular disease or arteriosclerosis. It is the primary cause of heart attacks, strokes, and peripheral vascular disease which all together considered as cardiovascular diseases.

Complications of Atherosclerosis

Brain

Stroke: The accumulation of plague within the blood vessels ruptures and become fragile. It results in the formation of blood clots within the blood vessels and obstructs the blood flow while travelling to the other parts of the body. If a clot blocks a blood vessel in the brain, it causes a brain stroke. There are two types of ischemic stroke caused by blood clots; one is narrowing of blood vessels to the brain caused by atherosclerosis or by other particles and blocks blood flow to that part of the brain. A cerebral embolism happens when clot or some other particle, called an embolus, is carried by the bloodstream [1]. It lodges in an arteries of the brain and blocks the flow of blood. The embolism could be due to plaque or a piece of clot that broke off from an atherosclerotic plaque. However, this condition is seen in people with atrial fibrillation.

TIA (Transient Ischemic Attacks): TIA signs and symptoms usually last for few minutes or an hour; rarely symptoms may last for 24 hours. The signs and symptoms of a TIA is stroke and may include sudden onset of symptoms like weakness, numbness or paralysis in face, arm or leg, typically on one side of the body, slurred speech or difficulty in understanding others, blindness in one or both eyes or double vision, loss of balance or coordination. There may be more than one Transient Ischemic Attacks (TIA), and the recurrent signs and symptoms may be similar or different depending on which area of the brain is involved [2].

Heart

Angina: Angina is chest pain or discomfort caused when heart muscle doesn't get enough oxygen supply through blood. Due to lack of oxygen demand, it may experience symptoms like pressure or squeezing in the chest. The discomfort may also occur in shoulders, arms, neck, jaw, or back. Angina pain may even feel like indigestion. Angina is not a disease, it is a symptom of an heart disease, usually Coronary Heart Disease (CHD). There are many types of angina, including Prinzmetal's angina, microvascular angina, stable angina, variant angina and unstable angina. This condition is seen when one or more of the coronary arteries are narrowed, also called ischemia. Angina can also be a symptom of coronary Micro-Vascular Disease (MVD) [3].

Heart attack: A heart attack occurs when the flow of blood to the heart is blocked by the accumulation of fat, cholesterol and other substances, which form a plaque in the arteries of the heart (coronary

arteries). Sometimes, a plaque can rupture and form a clot that obstructs the blood flow. The interrupted blood flow can destroy part of the heart muscle. Myocardial infarction also called as heart attack (Figure 1).

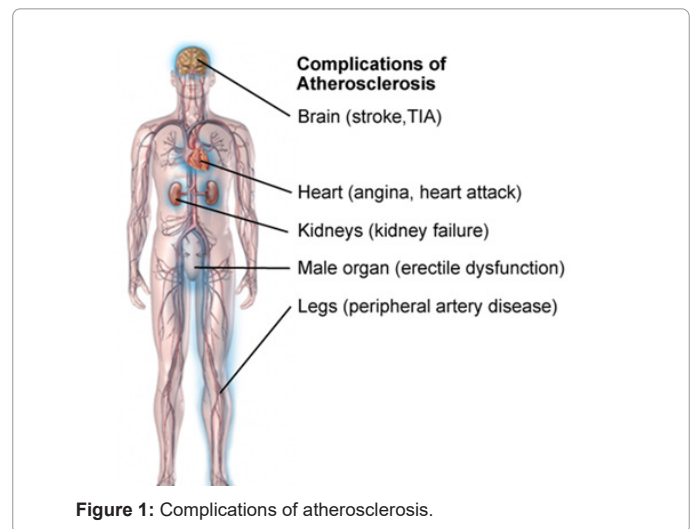


Figure 1: Complications of atherosclerosis.

Kidney

Kidney failure: Usually in atherosclerosis condition, the arteries become hardening due to accumulation of plaque, which intrupts the blood supply to the kidneys becomes increasingly restricted (stenosis). So that Arrhythmogenic Right Ventricular Dysplasia (ARVD) can cause Chronic Kidney Disease (CKD) and lead to End-Stage Kidney Disease (ESKD), especially as people get older.

Male organ

Eractile dysfunction: ED (Erectile Dysfunction) could be a sign of arteries blockage. It's all about blood flow. Plaque in the arteries can make that happen [4].

Legs

Peripheral artery disease: It is also known as peripheral arterial disease) is a common circulatory problem in which arteries get narrow

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and reduces the blood flow to the limbs. In Peripheral Artery Disease (PAD), legs or arms usually the legs don't receive enough blood supply. This may cause symptoms, such as leg pain while walking. Peripheral artery disease is also likely to be a sign of a buildup of fatty deposits in arteries (atherosclerosis). This condition may narrow arteries and reduce blood flow to the legs and, occasionally, to the arms. Peripheral artery disease can be successfully treated by exercising, eating a healthy diet and quitting tobacco [5].

With medication and lifestyle changes, we can slow down or stop the plaques formation. They may even shrink slightly with aggressive treatment like lifestyle changes, medication, angiography and stenting, bypass surgery, and through fibrinolytic therapy.

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