



Aspirin: Why are so many people taking it?

There are many steps in the development of heart attacks and strokes. The major early phase is the development of cholesterol deposits under the inner lining of blood vessels. These deposits gradually grow over many years and may interfere with the flow of blood through the arteries which deliver blood to the various organs.

The major causes of these deposits or "plaques" are well known. These causes are referred to as "risk factors"- high blood pressure, high cholesterol level in the blood, smoking, physical inactivity, overweight and diabetes. Over half of the population has at least one risk factor. These can be controlled by a healthy lifestyle and, if needed, medications. However, they cannot be controlled if they are unknown. This is a major reason for having your blood pressure and cholesterol levels checked from time to time. Your individual risk for a heart attack or stroke will depend upon your risk factors. See your doctor about that.

The second major and late phase is more abrupt. Changes may occur in or over one of the plaques, most commonly supplying the heart muscle (coronary heart disease) or brain (cerebral artery disease). This change in the surface of the plaque will lead to the sealing off of the damaged surface, initially by covering the surface with platelets. These platelets are very small. They are produced by cells in the bone marrow and circulate throughout the blood, stopping excessive bleeding by blocking off holes in the inner lining of the blood vessels. Platelets stop the blood from bleeding into the tissues which leads to bruising. If one has plaques in the arterial lining and change occurs in one of those plaques (fissuring), platelets will accumulate over the plaque.

The platelet collection will then be held together by a fibrinous clot, stabilising the sealing process. The presence of fibrin may lead to the growth of a blood clot in the artery. This clot may markedly narrow or block the artery. If that artery supplies blood to part

of the heart muscle, one has a heart attack. If it supplies blood to a part of the brain, one has a stroke.

Aspirin (usually given in small doses of 60 mg, 75 mg, 100 mg, 150 mg) stops or reduces the accumulation of platelets on the plaque. Thus, aspirin reduces the chance of having a heart attack or stroke by up to half.

Why doesn't every middle aged person take aspirin? Some people think they should. The answer is clear, however. Aspirin prevents heart attacks and strokes amongst those who are at high risk of heart attacks and strokes. Aspirin has little, if any, beneficial effect in those people of low risk.

However, Aspirin slightly increases the chance of major bleeding. For those at low risk, there is little gain, and possibly serious bleeding amongst those who are taking Aspirin. For those at high risk, particularly those people known to have arterial disease (heart attack or past stroke), there is great gain, which far outweighs the risks of bleeding.

Why not take a large dose rather than the recommended small dose of Aspirin? Again, the answer is bleeding. A high dose leads to more bleeding than does a low dose. In terms of stabilising blood platelets and preventing the development of clots in arteries, a low dose is as effective as a high dose.

Aspirin is a very old drug. It comes from willow trees. Its early use was to reduce pain from inflammation. That in the past required a larger dosage. Its current major benefit is in helping us overcome the effects of behaviours which increase the chances of developing unstable cholesterol plaques, heart disease and stroke. Recognition of the benefits from Aspirin is one of the great but simple medical advances of the past 50 years.

Dr Alan Goble
Cardiology Consultant
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