

Note on Hyperlipidemia and Statin Drugs

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DESCRIPTION

Statins are classes of medications that are frequently administered by doctors to assist Lower Blood Cholesterol Levels. They assist prevent heart attacks and strokes by reducing the levels. Statins have been shown to reduce the risk of heart attack, stroke, and even death from heart disease in some people. Statins inhibit the enzyme HMG-CoA reductase (3-hydroxy-3-methylglutaryl coenzyme A reductase), which is involved in the creation of mevalonate, a naturally occurring chemical that the body uses to create sterols, including cholesterol. The generation of cholesterol and LDL-Cholesterol is reduced when this enzyme is inhibited. Statins also increase the number of LDL receptors on liver cells, which improves LDL-Cholesterol uptake and breakdown. The liver is where statins have the majority of their effects, including inhibiting the HMG-CoA reductase enzyme. Low-Density Lipoprotein (LDL) cholesterol, generally known as "bad" cholesterol, is reduced with statins. They remove cholesterol from plaque and keep it stable. Plaque is a waxy substance made primarily of cholesterol deposits that can form within the walls of arteries, obstructing blood flow to and from the heart and resulting in heart attack and stroke. A high level of LDL cholesterol is potentially harmful, as it can cause artery hardening and narrowing (atherosclerosis) as well as Cardiovascular Disease (CVD). When the body manufactures vitamin D, hormones, and the acid that helps you digest food, cholesterol is used. However, if the person has too much cholesterol in the blood, it can build up inside the arteries and cause blockages. This creates impediments, making it more difficult for your blood to flow through the blood vessels. Because statins reduce the amount of bad cholesterol in the blood, they lower the risk of suffering a stroke or heart

attack. This cholesterol can cause atherosclerosis, which makes it difficult for blood to circulate and puts the person at risk for a heart attack or stroke. Statins stop cholesterol from being produced in the liver by inhibiting an enzyme called HMG-CoA reductase. The medication inhibits the enzyme, which slows the creation of cholesterol. Statins are generally effective, lowering LDL cholesterol by roughly 30% -50% if taken at a high dose. Even after attaining their goal cholesterol level, most people continue to take statins to maintain their protection against atherosclerosis. Statin medications work by inhibiting an enzyme that is required for the body's synthesis of both cholesterol and CoQ 10 and, as a result, lower CoQ 10 levels in the body. Because statins are meant to protect the heart, and because CoQ 10 shortage could theoretically impair heart function, this adverse effect has been argued to act against the primary purpose of taking statins. Muscle aches, constipation, diarrhoea, flatulence (gas), indigestion-heartburn, abdominal discomfort, nausea, lightheadedness, and sexual dysfunction are all common adverse effects. Insomnia, headaches, and joint pain are all symptoms of trouble sleeping.

CONCLUSION

Statins inhibit the enzyme HMG-CoA reductase. This enzyme is involved in creating mevalonate, a naturally occurring chemical that the body uses to create sterols, including cholesterol. Statins also increase the number of LDL receptors on liver cells, which improves LDL-Cholesterol uptake and breakdown. Statin medications work by inhibiting an enzyme that is required for the body's synthesis of both cholesterol and CoQ 10. This inhibits the enzyme, which slows the creation of cholesterol.

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