



OUR STUDY PROVES THAT **HEART DISEASE** **IS LINKED TO** **VITAMIN C DEFICIENCY**



Heart attacks and strokes have consistently remained the leading causes of deaths. Atherosclerosis, the underlying cause of these diseases, results in 17 million deaths each year. Yet, high blood cholesterol levels, a fatty diet, and obesity have been blamed as the causes of heart disease. However, cutting down dietary fat and the artificial reduction of blood cholesterol with cholesterol-reducing medicines have not been successful in addressing this issue. Atherosclerotic plaques occur primarily in the coronary arteries rather than in the entire 60000-mile-long vascular system. The absence of plaque in the veins and the fact that animals do not suffer from atherosclerosis while humans do cannot be explained by conventional medicine and the cholesterol theory of heart disease.

In 1990, Dr. Rath and the late two-time Nobel Laureate Dr. Linus Pauling, published¹ a revolutionary concept that a chronic insufficiency of vitamin C damages blood vessel walls triggering a biological “repair” process in which cholesterol-carrying lipoproteins deposit in the artery walls like a biological mortar. With time, this “repair” process can lead to a buildup of atherosclerotic plaque. The most effective “repair” molecule is a large, sticky lipoprotein (a) [Lp(a)]. Dr. Rath observed an inverse relationship between the internal production of lipoprotein (a) and vitamin C, which he described as the scurvy-heart disease connection. Humans, unlike most animals do not produce vitamin C in their bodies. Due to its unique structure, the Lp(a) can act as a surrogate for vitamin C protecting the integrity of the blood vessels during the times of vitamin C deficiency and the development of scurvy.

A significant role of Lp(a) in cardiovascular disease has been recognized, however, there are no effective pharmaceutical drugs that can lower it. Doctors believe that Lp(a) levels are part of the genetic constitution and they focus only on artificial reduction of cholesterol-carrying LDL (“bad” cholesterol).

The researchers at the Dr. Rath Research Institute developed a unique animal model {Gulo-/-; Lp(a)+} that resembles key aspects of human metabolism which is a lack of a specific gene (Gulo-/-) necessary for vitamin C production, and an ability to produce human Lp(a). This animal model can replicate a unique event in human evolution some 40 million years ago, when humans lost the ability to make their own vitamin C and when the Lp(a) gene emerged.

Our study with this animal model showed that a complete absence of dietary vitamin C intake results in a significant increase in serum Lp(a) levels. Moreover, this is accompanied by increased accumulation of the Lp(a) in the arteries at the site of highest mechanical stress near the heart, and leads to the appearance of plaques. On the other hand, supplementation of vitamin C effectively decreased the deposition of Lp(a) along the artery walls and consequently decreased Lp(a) blood levels. This confirms that Lp(a) can function as a repair molecule accumulating at the sites of vessel wall damage (insufficient collagen production) during vitamin C deficiency. The study has been published in the April, 2015 American Journal of Cardiovascular Disease².

The unique mouse model allows mimicking the human metabolism in its critical aspects: a lack of vitamin C production and the uniqueness of Lp(a) synthesis. Our study confirms the connection between vitamin C deficiency, Lp(a) accumulation and atherosclerosis. Moreover, our results showed that supplementing with vitamin C effectively reduced the Lp(a) and other associated risk factors most common for heart attacks and strokes.

1. M. Rath, L. Pauling, Proc. Natl. Acad. Sci. USA Vol. 87, pp. 6204-6207, 1990
2. J. Cha, A. Niedzwiecki, M. Rath; Am J Cardiovasc Dis 2015;5(1):53-62

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The ground-breaking nature of this research poses a threat to the multi-billion dollar pharmaceutical “business with disease”. It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health. Says he: “Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it.”

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