

# Correspondence

## Linus Pauling's Most Remarkable Gift of the Millennium: Vitamin C Can Prevent and Cure Heart Disease

Linus Pauling, one of the most distinguished scientists of the last century, passed away on August 19, 1994 at the age of 93. He was unique amongst the Nobel Laureates in that he was honoured twice with Nobel Prize (for Chemistry in 1954 and for Peace in 1962—both unshared).

In 1991, Pauling announced that the “Puzzle of Human Cardiovascular Disease” had been solved. His paper<sup>1</sup> explains: (a) that vitamin C deficiency is the direct and most frequent cause of heart attacks; (b) how plasma risk factors lead to atherosclerotic deposits in arterial walls; (c) why humans suffer from heart attack and stroke but rarely from the failure of other organs; (d) why animal species who are able to produce their own vitamin C in the body do not develop heart disease.

In the paper, “A Unified Theory of Human Cardiovascular Disease Leading the Way to the Abolition of This Disease as a Cause for Human Mortality”<sup>2</sup> a unified pathogenetic and therapeutic approach of Pauling and his colleague Matthias Rath, M.D., was presented on the basis of genetic, metabolic, evolutionary and clinical evidence. That paper is dedicated to the young physicians and the medical students of this world.

### *Pauling's Last Interview*

On April 9, 1994, four months before he died, Pauling was interviewed for a radio program. Pauling said:

“Vitamin C, ascorbic acid or sodium ascorbate or calcium ascorbate, is involved in a great number of biochemical reactions in the human body. Two of its major interactions are in potentiating the immune system and aiding the synthesis of the protein collagen, which is a very important substance that holds together the human body. Collagen strengthens the blood vessels, the skin, the muscles and the bones. You can't

make collagen without using up vitamin C. One piece of evidence that made quite an impression on me 20 years ago was when Irwin Stone, Ph.D., pointed out that most animals except humans, monkeys and apes, manufacture vitamin C. They don't rely on vitamin pills or foods - they made vitamin C in their liver in amounts proportional to body weight. For an adult man the proportion turns out to be on the average about 10 or 12 g a day. That's 200 times the Recommended Dietary Allowance or 200 times the amount people get in an ordinary diet. This is why I think we should be getting 200 times the amount of vitamin C that the Food and Nutrition Board recommends. The RDA, 60 mg, is far too small and indicates the importance of taking vitamin C supplements.”

Referring to the papers mentioned above, Pauling also said in the interview:

“The papers contain a simple argument. I have trouble understanding why somebody interested in heart disease didn't think of it 20 or 30 years ago when it was accepted by cardiologists that the primary cause of atherosclerosis and heart disease is a lesion in the wall of an artery in a region of stress. So I asked myself two or three years ago, ‘why should there be a lesion in the wall of the artery? Animals don't have these lesions in regions of stress’. Well, you have the lesions because arteries are weak. Why are they weak? Ordinarily, animals' arteries are strengthened by the deposit of collagen. And you can't make collagen without using up vitamin C. Humans don't get enough vitamin C, so their arteries are weak. And then a lesion forms, followed by the other stages of developing heart disease. Therefore, deficient intake of vitamin C is a primary cause of cardiovascular disease.”

### *U.S. Patent*

Dr. Pauling and Dr. Rath invented “non invasive” therapy for preventing plaque build-up. This therapy is based partly on Nobel Prize winning discoveries on how

and why lipoproteins adhere to the walls of damaged human blood vessels. When Pauling and Rath were able to show laboratory evidence that not only is plaque buildup prevented in vivo in the laboratory, but that such deposits could be reversed, they were awarded the first U.S. Patent for reversing heart disease without surgery.

Linus Pauling recommended a high amount of two essential nutrients for the maintenance of the intima of arterial walls and for a reduction in plaque caused and laid down by a variant of LDL cholesterol: lipoprotein(a) or Lp(a). The Pauling/Rath theory attributes plaque formation to lesions in the intima caused by insufficient vitamin C in the diet. In other words, plaque formation is a healing process. In all cases, large amounts of vitamin C are warranted to support healing of the intima. Lysine is theorized to attach to the lysine receptor of the Lp(a) molecule, and thus substitute for the Lysine exposed on the arterial wall after injury to the intima.

#### *Pauling's Recommended Dosages*

Pauling recommended that every adult should take at least 3 g of vitamin C and 1-2 g of L-lysine per day as a preventive against heart attacks and strokes. Those who are considered high risk, (that is, anyone whose mother, father, sister or brother, has had a heart attack or stroke), should take at least 3 to 6 g of vitamin C and 2 to 3 g of lysine per day.

Pauling recommended that those who have had a heart attack or stroke should take at least 6 or more grams of vitamin C and 4 to 6 grams of lysine. This, together with vitamin A and E, was his specific recommendation for this prevention and treatment of cardiovascular disease. Pauling's recommendation of treatment of heart diseases is surprisingly simple, effective and inexpensive. He asserted that a patient following his dose regime might not even need bypass surgery, which costs over \$50,000 dollars in the U.S. Statistically speaking, a few years ago:

- Nearly 59 million Americans had a form of cardiovascular disease.
- Over 100 million Americans were at risk.
- Every 34 seconds an American died of cardiovascular disease.

#### *The Value of Vitamins in Heart Disease*

Vitamin C, vitamin E and beta-carotene (provitamin A) belong to the most powerful agents in the fight against heart disease. This fact has been established by studies on thousands of people over many years. Here are some important results of recent clinical studies: Vitamin C cuts heart disease rate by almost half (documented in 11,000 Americans over 10 years); vitamin E cuts by more than one third (documented in 36,000 Americans over 6 years) and beta-carotene cuts almost in half (documented in 36,000 Americans).

No prescription drug has ever been shown to help prevent heart disease similar to vitamin A, C and E. Furthermore, all blood risk factors known today in clinical cardiology can be neutralized by vitamin C and other essential nutrients.

These results and those of countless other studies are so clear that anybody questioning the value of these vitamins in the prevention of heart diseases can safely be considered uninformed.

During the 1970s vitamin C consumption in the U.S. rose by 300 percent. Mortality from heart disease decreased by 30 percent in the U.S.—the only country with a significant drop in heart disease fatalities. Yet, the media and the medical profession seem to ignore these facts in favour of confusing propaganda.

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#### **References**

1. Pauling L: The Puzzle of Human Cardiovascular Disease. *J Orthomol Med*, 1991; 6; 125-134.
2. Pauling L, Rath, M: A Unified Theory of Human Cardiovascular Disease Leading the Way to the Abolition of This Disease as a Cause for Human Mortality. *J Orthomol Med*, 1992; 7; 5-15.