



A Nutrient Approach to Inhibition of Cardiovascular Disease

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Abstract

Every year over 12 million people worldwide die of the results of atherosclerosis, heart infarctions, and strokes. Cellular Medicine provides a breakthrough in understanding causes, prevention, and treatment of cardiovascular disease - chronic nutrient deficiency of essential nutrients.

Certain drastic behavioral modifications by the arterial wall smooth muscle cell (SMC) have been considered key steps in the formation of atherosclerotic lesions: SMC migration, increased proliferation, and increased secretion of inflammatory mediators. Based on the principle of nutrient synergy, we developed a nutrient supplement containing ascorbic acid, lysine, proline and green tea extract that focuses on inhibiting key steps in atherosclerotic plaque progression. This formulation was found to significantly inhibit SMC growth and migration, expression of inflammatory mediators, and attachment to endothelial cell membranes.

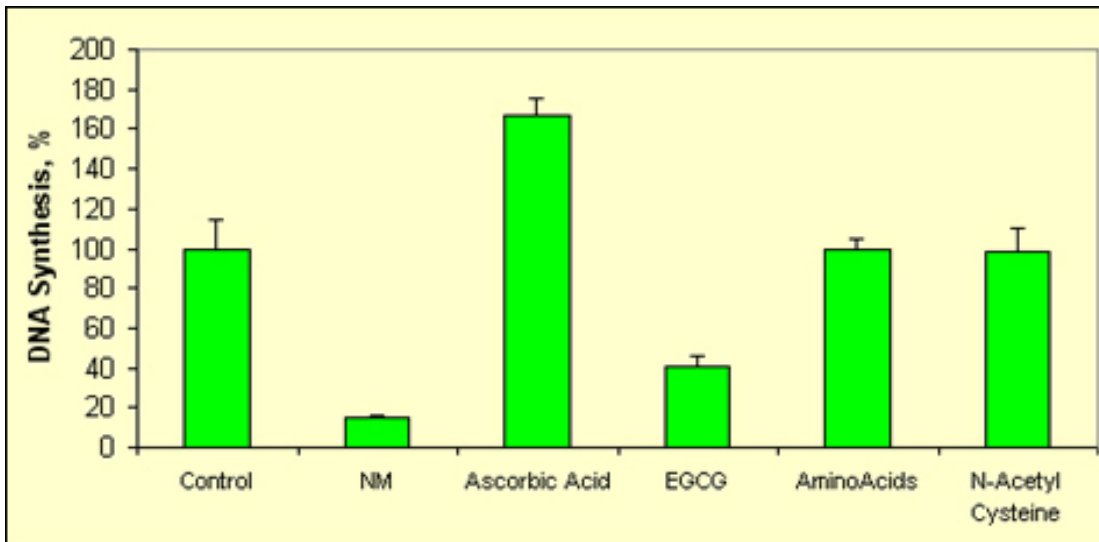
Causes of essential hypertension are poorly understood by conventional medicine; conventional treatment focuses on symptoms without correcting the primary underlying problem – spasm of the blood vessel wall. Our research team tested the effect of various nutrients independently and in mixture on angiotensin II-induced contractile activity of cultured human aortic SMC embedded in a three-dimensional type I collagen matrix. The nutrient mixture and individual nutrients inhibited angiotensin II-induced gel contraction.

Comment:

Every year over 12 million people worldwide die of the results of atherosclerosis, heart infarctions, and strokes. Conventional treatment focuses on symptoms, but does not address the cellular cause of cardiovascular disease – chronic deficiency of essential nutrients. The nutrient mixture of ascorbic acid, lysine, proline and green tea extract inhibited the key steps in atherosclerotic plaque progression:

- Inflammation - Inhibits secretion of inflammatory mediators and Inhibits attraction of monocytes
- Oxidation - Protects LDL from free radicals
- SMC growth and invasion - Direct and ECM-mediated inhibitory effects
- ECM production - Promotes anti-atherogenic changes in ECM composition and quantity

The nutrient mixture (NM) inhibited aortic SMC proliferation greater than did individual nutrients



Legend: NM: Nutrient mixture 100 g/ml; Amino Acids: Lysine + Proline + Arginine (110, 110, 50 M) ; AsA: Ascorbic Acid 100 M; NAC: N-Acetyl Cysteine 25 M, EGCG 15 M.