Discovery is seeing what everybody else has seen, and thinking what nobody else has thought.
- Albert Szent-Gyorgi, discovered vitamin C in 1928

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Part VI

Knowledge of Health: Breakthrough Report

Researchers Discover First Step In Artery Disease And A Simple Antidote

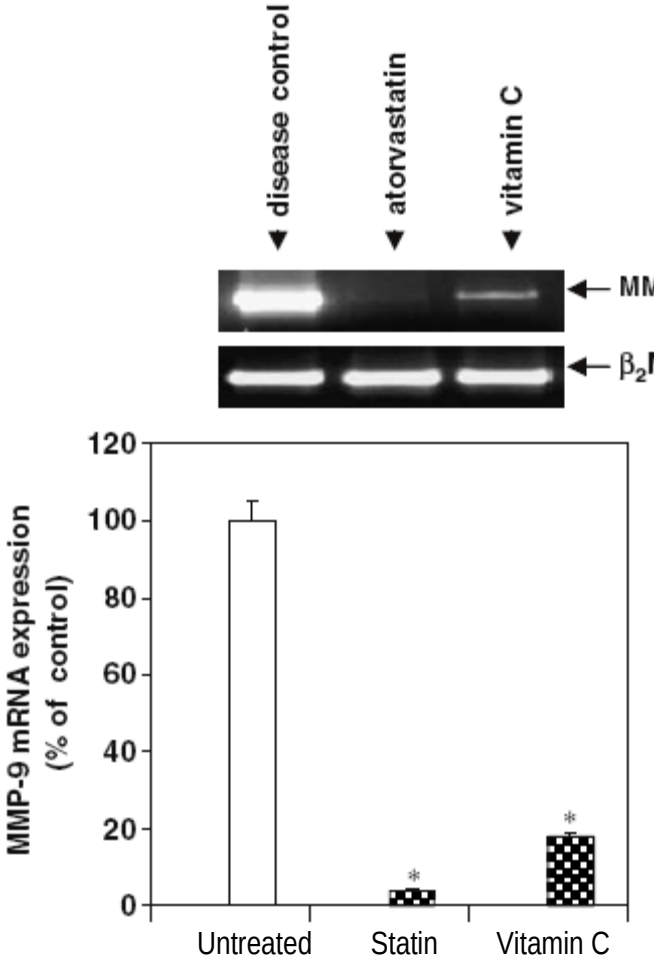
Atherosclerosis is a condition in which fats collect under the inner lining of damaged artery walls, eventually narrowing or blocking arteries and obstructing blood flow. But how does atherosclerosis get started? Researchers think they now know the very first step in artery disease and its surprisingly simple antidote.

Controllers of cellular and metabolic processes called peroxisome proliferators-activated receptors (PPARs) are involved in inflammation. Inflammation is now believed to be an initiating factor in artery disease.

Researchers at the Post Graduate Institute of Medical Education and Research in Chandigarh, India, reporting in the European Journal of Clinical Nutrition, indicate PPARs interact with another factor, called liver X receptor-a, which gives rise to early abnormalities inside artery walls. So the very first step in the development arterial plaque has been identified.

Here's the shocker – while statin cholesterol-lowering drugs reduce gene-controlled activation of PPARs, vitamin C does this equally as well! The researchers said their laboratory experiment *"provides incontrovertible evidence to support the view that both statins and vitamin C have identical effects on the expression of genes coding for PPARs."* Moreover, vitamin C concentrations required to produce this preventive effect are *"well within the permissible dose of this vitamin."* [European Journal Clinical Nutrition 59: 978-81, 2005]

The chart below compares the ability of a statin cholesterol-lowering drug or vitamin C against untreated control subjects in their ability to inhibit the MMP9 gene involved in this process.



The prospect of using vitamin C to prevent atherosclerosis, which is far less expensive and problematic compared to statin drugs, would be welcomed by many patients, especially those who experience toxic side effects from the drugs. Oral vitamin C would not necessarily lower any circulating cholesterol numbers, but would block the onset of the first step in atherosclerosis. Since vitamin C is a water-soluble vitamin, oral dosing should be repeated throughout the day as recommended by Steve Hickey and Hilary Roberts in their book *Ascorbate: The Science of Vitamin C* (www.lulu.com/ascorbate). Spreading the dose of vitamin C throughout the day also minimizes the occurrence of diarrhea.