A New Era in Medicine

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Health care and medicine in the 21st century will significantly differ from the present:

- Nutritional medicine will be an essential part of any future health care system
- Vitamins and other essential nutrients will be accepted as effective, safe and affordable preventive and therapeutic agents.
- Skepticism and bias against nutritional supplements, the dominating attitudes during the second half of this century, will be replaced by realism and objectivity.
- As a result of an objective scientific attitude towards essential nutrients medical research and scientific knowledge will boost in an unprecedented way.
- Most importantly, many diseases which have become hallmarks of the human race during this century, including cardiovascular diseases, will eventually be eradicated.

On the occasion of the publication of my book *Eradicating Heart Disease*[1] I would like to share with the readers of the Journal of Orthomolecular Medicine the reasons for this encouraging perspective.

Ice Age/C.V. Disease Connection

The discovery of the Ice Age/Vitamin Deficiency/Cardiovascular Disease connection will eventually lead to the eradication of heart attacks, strokes and related cardiovascular diseases.[2,3] Starting 2.5 million years ago, the Ice Age dramatically influenced the gene pool of the human race. Blood loss through the vitamin deficient and scorbutic vascular wall was the greatest threat to the evolutionary survival of man. Inherited disorders leading to cardiovascular and related diseases became, during the Ice Age, Nature's response to protect the vessel wall during thousands of generations of extreme vitamin deficiency. These disorders can be prevented and treated by optimum intake of vitamins, particularly vitamin C.[4]

The Ice Age/Cardiovascular Disease connection invalidates the term 'disease' for heart attacks, strokes and related cardiovascular disorders and redefines them as conditions caused by nutritional deficiencies. The same is true for many other inherited disorders leading to a general thickening of body tissues including the walls of the blood vessels. These disorders, which had an evolutionary advantage because they protected our ancestors from the fatal consequences of vitamin deficiencies, could also be eradicated: diabetes, homocystinuria, Alzheimer's Disease, Parkinson's Disease, cystic fibrosis, muscular dystrophy, lupus erythematodes and dozens of other diseases.

Eradicating Heart Disease

Based on the above discoveries and on growing scientific evidence accumulated over the years I developed nutritional recommendations for optimum cardiovascular health. Hundreds of patients are already following these recommendations. Their amazing testimonials are important elements of the book:

- Cessation of angina pectoris within one or two weeks
- Cessation of irregular heartbeat (arrhythmia) within days
- Cessation of shortness of breath
- Increase in physical and mental strength

These effects are achieved by nutritional supplements reversing impaired blood flow to the heart muscle as well as improving metabolism of millions of heart cells. The most important among these nutrients are vitamin C, vitamin E, niacin, lysine, proline, coenzyme Q10, carnitine as well as certain minerals. Particular emphasis in the book is given to my earlier discoveries of the therapeutic effect of ascorbate, lysine and related compounds in neutralizing the risk from lipoproten(a).[5] Moreover, a new therapeutic mechanism is described by which lysine and proline, together with other essential nutrients, decrease the "atherosclerotic tumor" in the vascular wall caused by smooth muscle cells. Based on my earlier discoveries, my former colleague Linus Pauling has gratefully undertaken the task to document the therapeutic value of lysine in combination with ascorbate.[6]-[7] In case histories he reported the decrease of angina pectoris in patients taking

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five grams and more of vitamin C and lysine for several months. While these results are encouraging they also show the limitations of a therapeutic approach based on two components: five to ten times higher amounts of supplements and a longer time are needed to bring relief to the patient.

The recommendations in my new book take nutritional medicine one step further towards a comprehensive nutritional resupplementa-tion for optimum cardiovascular health. These recommendations stand any comparison with prescription drugs in the therapy of angina pectoris, arrhythmia, hypertension, heart failure as well as for the prevention of diabetic vascular disease.

A Personal Chronology

My earlier publications in this Journal triggered repeated interest in the history of these discoveries. Thus, a brief personal chronology may be in order:

In 1987, after having discovered the lipoprotein(a)-vitamin C connection, I rec-ommended vitamin C supplementation to an individual with high lipoprotein(a) levels. This marks the first therapeutic attempt to lower elevated blood concentrations of this risk factor by using vitamin C.[8,9]

During my research project at Hamburg University, I used L-lysine and synthetic lysine analogs to isolate lipoprotein(a) from blood and from arterial walls. This suggested the therapeutic use of lysine and synthetic lysine analogs,[5] a therapeutic technology for which I received patents in the meantime.

In early 1990, after the prominent role of lipoprotein(a) in human atherosclerosis was established,[10] I came to the United States to work on the physiologic role of lipoprotein(a) as well as to pursue my earlier therapeutic discoveries. My scientific findings over the year were primarily published in the Journal of Orthomolecular Medicine and I had generally invited my former colleague Linus Pauling to join me as co-author.

In September 1992 I founded Health Now to further promote research and education in nutritional medicine.

For the Benefit of Humanity

My recent discovery of the protein code will further increase the efficiency of therapeutic research: after the genetic code had been deciphered more than 30 years ago, the protein code has remained the missing link of biological communication.[11] Selective targeting and intercepting pathological communication will now lead to therapeutic breakthroughs in the control of cancer, infectious diseases and many other areas of medicine. While these discoveries are gratifying small steps for an individual scientist, they could become giant steps in the service of humanity.

References

1. Rath M. (1993) Eradicating heart disease. Health Now, San Francisco (See announcement in this issue).
2. Rath, M., Pauling, L. (1992) A unified theory of human cardiovascular disease leading the way to the abolition of this disease as a cause for human mortality. J. of Orthomolecular Med. 7: 5-15.
3. Rath M. (1992) Solution to the puzzle of human evolution. J. of Orthomolecular Med. 7: 73-80.
4. Rath M. (1992) Reducing the risk for cardiovascular disease with nutritional supplements. J. of Orthomolecular Med. 7: 153-162.
5. Rath M and Pauling L. (1991) Solution to the puzzle of human cardiovascular disease: Its primary cause is ascorbate deficiency, leading to the deposition of lipoprotein(a) and fibrinogen/fibrin in the vascular wall. J. of Orthomolecular Med. 6: 125-134.
6. Pauling L. (1991) Case report: Lysine/ ascorbate-related amelioration of angina pectoris. J. of Orthomolecular Med. 6: 144-146.
7. McBeath M, Pauling L. (1993) A case history: lysine/ascorbate-related amelioration of angina pectoris. J. of Orthomolecular Med. 8: 77-78.
8. Rath M and Pauling L. (1990) Hypothesis: Lipoprotein(a) is a surrogate for ascorbate. Proceedings of the National Academy of Sciences U;SA 87: 6204-6207.
9. Rath M. (1992) Lipoprotein-a reduction by ascorbate. J. of Orthomolecular Med. 7: 81-82.
10. Rath M, Niendorf A, Reblin T, Dietel M, Krebber H-J, and Beisiegel U. (1989) Detection and quantification of lipoprotein(a) in the arterial wall of 107 coronary bypass patients. Arteriosclerosis 9: 579-592.
11. Rath M. (1993) Discovery of new elements of biological communication leading the way to the abolition of infectious diseases, cancer, and other diseases as causes of human mortality. J. of Orthomolecular Med. 8: 11-20.

In the AI-driven era of personalized medicine, healthcare will also need to grow its data volume to understand patients in the comprehensive way that the military, aerospace, and automotive industries know their operations. The current digital understanding of U.S. patients is poor, with data collected about three times per year, during clinic and hospital visits, and almost no data existing on healthy patients. As healthcare builds towards big data, it can learn from these industries already operating on this greater scale. Sanders shared his vision for the era of personalized medicine at the A new era of medicine. Cell and gene therapies could help reduce or eliminate the need for treatments that need to be taken continuously, often for life. Novartis is reimagining medicine with one-time, potentially curative cell and gene therapies that only need to be administered once for patients with serious, rare and life-threatening diseases. These new therapies present the opportunity to reexamine how our healthcare system manages diagnosis, treatment, care and associated costs for these patients. How is conventional therapy different from cell and gene therapy? View the infographic. Precision medicine is the management of treatment profiles across different cancers predicting therapies for individual cancer patients. With strategies including individual genomic profiling and targeting specific cancer pathways, precision medicine for prostate cancer has the potential to impose changes in clinical practices. Some of the recent advances in prostate cancer precision medicine comprise targeting gene fusions, genome editing tools, non-coding RNA biomarkers, and the promise of liquid tumor profiling. In this review, we will discuss these recent scientific advances to scale up th