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Authors

Demer, Linda L

Tintut, Yin

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Evolutionary approach sheds light on the significance of vascular calcification

Linda L. Demer^{1,2,3} and Yin Tintut^{1,3,4}

¹Department of Medicine (Division of Cardiology), University of California, Los Angeles (UCLA), Los Angeles, California, United States of America

²Department of Bioengineering, University of California, Los Angeles (UCLA), Los Angeles, California, United States of America

³Department of Physiology, University of California, Los Angeles (UCLA), Los Angeles, California, United States of America

⁴Department of Orthopaedic Surgery, University of California, Los Angeles (UCLA), Los Angeles, California, United States of America

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Dear Editor

We are pleased to see the letter from Dr. de Cespedes providing an expanded view of the medical evolutionary considerations that we raised in our recent publication. We agree wholeheartedly with his observations, including the concept that adaptations may adversely affect health, and that vascular calcification, specifically, is most likely mal-adaptive. While vascular calcification may have evolved as a useful adaptive response to infectious pathogens, it now appears to occur as a mal-adaptive response to inflammatory lipoprotein particles, which may resemble bacterial particles. We also agree with his view that genetic variants that promote mineralization may benefit bone in youth, but harm the vasculature with age.

Sincerely,

Linda Demer, MD PhD and Yin Tintut, PhD

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To whom correspondence should be addressed: Yin Tintut, Ph.D., The David Geffen School of Medicine, University of California, Los Angeles, Center for the Health Sciences A2-237, 10833 Le Conte Ave, Los Angeles, CA. 90095-1679, Phone: (310) 206-9964, Fax: (310) 825-4963, ytintut@mednet.ucla.edu.