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How much of your patients heart failure is due to a treatable thyroid hormone imbalance?

The idea of treating heart diseases with thyroid hormones (THs) has been around for over 60 years, but has never been proven or disproven. Many things have contributed to this open question, including: (1) lack of financial incentive; (2) negative effects of several influential clinical studies that actually used an overdose of TH analogs rather than actual THs; and (3) lack of a proven TH treatment/monitoring protocol than can be safely translated to humans. Nonetheless, a growing body of pre-clinical and clinical evidence suggests that we should be asking the following question- "How many of your symptoms are due to the diagnosed heart disease and how many are due to low cardiac tissue TH levels?" Those who have not kept up with recent evidence may be surprised by what we have learned recently. In particular, it now appears that heart diseases in general may trigger low cardiac tissue T3 levels, a condition that by itself has been shown to cause heart failure. THs offer the promise of improving ventricular contraction and relaxation, improving coronary blood flow, inhibiting atherosclerosis, and new results suggest that restoration of cardiac tissue THs may even reduce the incidence of arrhythmias in heart diseases. This presentation will provide an overview of current knowledge in the field. Importantly, we have recently established and validated a new T3 treatment/monitoring protocol in rodents that can be safely implemented in humans.

Biography

Anthony Martin Gerdes has done PhD in Anatomy (1978), from University of Texas Medical Branch at Galveston. He was the Professor/Chair of Anatomy, University of South Dakota and also the founding Scientist for Sanford Research-University of South Dakota. His Current position is Professor/Chair Biomedical Sciences, NYIT College of Osteopathic Medicine, Old Westbury, NY, 2011-present. Publications: ~120 peer reviewed journal articles. 2013 Distinguished Alumnus, Graduate School of Biomedical Sciences, UTMB at Galveston Anthony Martin Gerdes developed a precise method to determine cardiac myocyte shape. He then provided a comprehensive understanding of how cardiac myocytes remodel during growth, maturation, aging, cardiac hypertrophy, and heart failure (HF) from many etiologies. After demonstrating that low thyroid hormone function alone can cause heart failure, he showed remarkable beneficial changes in myocyte shape and vascular remodeling, reduced fibrosis, and improved LF function after thyroid hormone treatment of various models of HF (including ischemia, diabetes, hypertension).

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