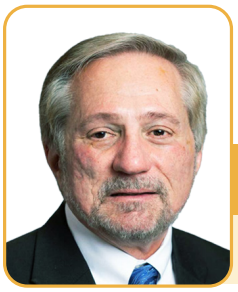
Plenary Lecture 4

Chairperson

Kyu Rae Lee
Gachon University, Korea

Speaker

W. Timothy Garvey
University of Alabama at Birmingham, USA



W. Timothy Garvey

University of Alabama at Birmingham, USA

• Education

Period	Affiliation	Position
– **1983-1984**	University of California, San Diego, School of Medicine	Clinical and Research Fellow
– **1982-1983**	University of Colorado Health Sciences Center	Clinical and Research Fellow
– **1974-1978**	St. Louis University School of Medicine, St. Louis, Missouri	M.D.
– **1970-1974**	Washington University, St. Louis	B.A.

• Affiliations / Experience

Period	Affiliation	Position
– **2018-Present**	UAB Diabetes Research Center	Director/ PI
– **2018-Present**	University of Alabama at Birmingham	Professor
– **2003-Present**	Birmingham Veterans Affairs Medical Center Birmingham	Staff Physician and GRECC Investigator
– **2003-2018**	Medical University of South Carolina	Adjunct Professor of Medicine
– **1994-2003**	Ralph H. Johnson Veterans Affairs Medical Center, Charleston	Staff Physician

• Committee Memberships

- National Board of Medical Examiners
- American Board of Internal Medicine
- Specialty Board in Endocrinology and Metabolism
- American Board of Obesity Medicine
- American Association of Clinical Endocrinology

• Publications

- Everett AB, Garvey WT, Fernandez JR, Habegger K, Harper LM, Battarbee AN, Martin SL, Moore BA, Fouts AE, Bahorski J, Chandler-Laney PC. Leptin resistance in children with in utero exposure to maternal obesity and gestational diabetes. Pediatr Obes (12):e13081. doi: 10.1111/ijpo.13081. Epub. *PMID: 37859518; PMCID: PMC10841866*
- Hankosky ER, Wang H, Neff LM, Kan H, Wang F, Ahmad NN, Griffin R, Stefanski A, Garvey WT. Tirzepatide reduces the predicted risk of atherosclerotic cardiovascular disease and improves cardiometabolic risk factors in adults with obesity or overweight: SURMOUNT-1 post hoc analysis. Diabetes Obes Metab. 26(1):319-328. doi: 10.1111/dom.15318. Epub. *PMID: 37932236*
- Kirkman MS, Tripputi M, Krause-Steinrauf H, Bebu I, AbouAssi H, Burch H, Duran-Valdez E, Florez H, Garvey WT, Hsia DS, Salam M, Pop-Busui R; GRADE Research Group. Comparative Effects of Randomized Second-line Therapy for Type 2 Diabetes on a Composite Outcome Incorporating Glycemic Control, Body Weight, and Hypoglycemia: An Analysis of Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness Study (GRADE). Diabetes Care. dc231332. doi: 10.2337/dc23-1332. Epub ahead of print. *PMID: 38194519*
- Garvey WT, Cohen RM, Butera NM, Kazemi EJ, Younes N, Rosin SP, Suratt CE, Ahmann A, Hollander PA, Krakoff J, Martin CL, Seaquist E, Steffes MW, Lachin JM; GRADE Research Group. Association of Baseline Factors With Glycemic Outcomes in GRADE: A Comparative Effectiveness Randomized Clinical Trial. Diabetes Care. dc231782. doi: 10.2337/dc23-1782. Epub ahead of print. *PMID: 38285957*
- Howell CR, Zhang L, Mehta T, Wilkinson L, Carson AP, Levitan EB, Cherrington AL, Yi N, Garvey WT. Cardiometabolic Disease Staging and Major Adverse Cardiovascular Event Prediction in Two Prospective Cohorts. *JACC Advances, In press*

Plenary Lecture 4

Current and Future Second-Generation Medications for Adiposity-Based Chronic Disease: an Era of Drug Discovery that Constitutes a Landmark in the History of Medicine

W. Timothy Garvey (University of Alabama at Birmingham, USA)

Since 2021, two medications have been available for treatment of obesity that provide 15% weight loss in clinical trials, semaglutide and tirzepatide. These are described as second-generation medications based on an unprecedented efficacy for weight loss that is sufficient to prevent or treat a broad array of obesity complications and related diseases. This level of efficacy enables a complications-centric approach to the care of Adiposity-Based Chronic Disease where the goal is to ameliorate complications that confer morbidity and mortality rather than the loss of weight per se. Semaglutide and tirzepatide are peptide agonists of the nutrient-regulated hormones (NRHs) glucagon-like peptide 1 (GLP1) and dual agonism for GLP1 and gastric inhibitory polypeptide (GIP), respectively. Importantly, multiple other medications are actively being developed by pharma based on NRHs, including GLP1, GIP, amylin, glucagon, and peptide YY either as mono-, dual-, or triple-agonist/antagonists. Other NRHs also represent active drug targets including leptin agonism and ghrelin antagonism, and pharmaceutical strategies for muscle preservation during weight loss are under development. It is exciting that medications in phase 1-3 trials have already been shown to have second-generation level efficacy closing the gap with bariatric surgery. Furthermore, these medications are proving to be effective in treating multiple weight-related complications including osteoarthritis, sleep apnea, and the cardiometabolic disease outcomes of type 2 diabetes, MASH, hypertension, CHF with preserved ejection fraction, CKD, and prevention of cardiovascular disease. The potential benefits regarding patients suffering from obesity and the burden of this disease in societies are immense, and the current era of drug development for obesity merits recognition as a landmark in the history of medicine. To realize these benefits, societies will need to ensure access to these life-saving medications for those patients who need them.