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OCTOBER 10-13, 2019
CHICAGO, ILLINOIS

HIGHLIGHTS: 2020 Cardiometabolic Health Congress, Chicago IL

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**The Cardiometabolic
Event of the Year**





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The 14th Annual Cardiometabolic Health Congress was held in Chicago IL, October 10 - 13, 2019 and focused on both prevention and management of cardiometabolic diseases and risk factors, including obesity, hypertension, type 2 diabetes, dyslipidemia, atherosclerosis, heart failure, and chronic kidney disease. The event was chaired by influential thought leaders Robert H. Eckel, MD; Christie M. Ballantyne, MD; George L. Bakris, MD; and Jay S. Skyler, MD. Below are highlights from the meeting:

- *Cardiometabolic Tech Summit: Digital Advancements and Practical Solutions*
- *Keynote: GLP-1 Agonists: Investigating the Pleiotropic Effects for Cardio Renal Protection; What are the Potential Mechanisms Involved?*
- *Diabetes Management*
- *Lipid Management*
- *Hypertension, Chronic Kidney Disease, and Heart Failure Management*
- *Obesity and Lifestyle*

Cardiometabolic Tech Summit: Digital Advancements and Practical Solutions

Conventional approaches to care, such as landmark clinical trials, updated clinical practice guidelines, and population-level efforts in screening and diagnosing cardiometabolic disease have helped to improve outcomes, however, clinical outcomes remain suboptimal. Cutting-edge approaches, including advances in technology, genetic testing, and real-world data, have the potential to address this gap and truly individualize therapy. These topics were covered extensively during the summit, chaired by **Anne Peters, MD**, Professor of Medicine and Director of Clinical Diabetes Programs at the University of Southern California, and developed in partnership with MedTech Impact on Wellness.

The emerging role of genetic testing was covered by expert faculty **Elizabeth McNally, MD, PhD**, which focused on the benefits of polygenic risk scores, electronic medical records, and proactive gene sequencing. "The prevalence of genomic sequencing is rapidly expanding as they become increasingly accessible to the general public. To date, close to 30 million people have participated in genetic testing, and this number only continues to grow exponentially. The growing accessibility of preliminary genomic sequencing, initiated by physicians and individuals alike, has assisted in the early detection of cardiac, cancer and pathogenic genes. These genetic markers have also enabled correct diagnoses to be made when initial symptoms present atypically" - Dr. McNally mentioned. **Lawrence Blonde, MD**, in discussing real-world evidence (RWE) and randomized clinical trials (RCTs) simplified this distinction by saying "randomized controlled trials answer the question, can it work? while real world evidence begs the question, does it work?". "The appropriate use of RWE requires consideration of the totality of evidence and application of pertinent patient information, and future research will aim to integrate RWE and RTC" - Dr. Blonde further added. Diabetes devices were covered by **Anne Peters, MD**, who stated the need to move beyond glycated hemoglobin (HbA1c) for diabetes control and how continuous glucose monitoring (CGM) and other technology can help individualize therapy—however, "simply measuring sugar is not enough to evoke a biological change and solve diabetes" - she candidly declared, while further advocating for ongoing research in an effort to streamline care and support the health of all patients. The summit was concluded with a presentation on wearables and digital health for arrhythmia management by **Mintu Turakhia, MD**, who provided an overview of the implications of recent studies using commercially available smartwatches to screen for undiagnosed atrial fibrillation. In addition to wearables, Dr. Turakhia supported the intersection of artificial intelligence (AI) and medical care, and highlighted the role of AI in interpreting various diagnostic imaging—"AI was not created to replace physicians but rather to complement their clinical practice. In comparison with their human counterparts, it has both a faster processing speed, allowing it to quickly sort through enormous datasets, and superior pattern recognition which can ultimately be harnessed to minimize misdiagnoses" - he concluded.

Keynote: GLP-1 Agonists: Investigating the Pleiotropic Effects for Cardio Renal Protection; What are the Potential Mechanisms Involved?

The evolution in diabetes treatment during recent years has involved the development of several classes of new medications, including many peptide-based therapies. As exciting data have emerged about the cardio-renal benefits of these agents, the specific mechanisms of action responsible for these effects are not fully known. During his keynote presentation, **Daniel J. Drucker, MD**, Professor of Medicine at the Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital in Toronto, overviewed the evidence with peptide therapies—specifically that of glucagon-like peptide-1 (GLP-1) receptor agonists—and their role in both hyperglycemia management and prevention of major adverse cardiac events. In several large trials, “GLP-1 agonists have been shown to decrease blood pressure, postprandial lipemia, postprandial glucose, body weight, cardiovascular death, heart attacks, fatal and non-fatal strokes—but amid all of these reductions—they also increased heart rate” - mentioned Dr. Drucker. This discovery triggered multiple subsequent questions, including “how are we getting reduced heart attacks with GLP-1?”, particularly in light of increased heart rates. Although we don’t yet fully know all the mechanisms responsible, Dr. Drucker attributed these benefits to “decreased inflammation, decreased ischemic injection, increased glucose uptake, increase in LV function, and increased heart rate”, while concluding that much research remains to be done in this area.

Diabetes Management

The significant advances in diabetes management were highlighted by several session talks. **Edward S. Horton, MD**, Professor of Medicine at Harvard Medical School, in his talk “Lifestyle Interventions for Prevention of Diabetes and Metabolic Syndrome” reviewed the epidemic of diabetes and its close relationship with obesity and lifestyle. Dr. Horton stressed the importance of lifestyle modifications and metformin in the prevention and treatment of type 2 diabetes (T2D)—a view supported by decades of data from the national Diabetes Prevention Program (DPP) and the DPP Outcomes Study (DPPOS), which he has been a crucial part of. **Irl B. Hirsch, MD**, Professor of Medicine and the Medical Director of the Diabetes Care Center at the University of Washington Medical Center, always an animated and engaging speaker at CMHC, reviewed the importance of insulin therapy. “Insulin remains a critical therapy for T2D treatment, although its role has changed with the introduction of sodium-glucose-cotransporter 2 (SGLT-2) inhibitors and GLP-1 agonist, but 70% of preexisting patients with diabetes do not have a pre-existing cardiovascular disease” - Dr. Hirsch noted. He mentioned the benefits of combining basal insulin with GLP-1 receptor agonists, a view that was also supported by **Julio Rosenstock, MD**, Clinical Professor of Medicine at University of Texas Southwestern Medical Center, in his presentation titled “Initial Simultaneous Combination Therapy vs Sequential Therapy.” The session concluded with lively challenging case presentations, during which the new evidence and revised diabetes guidelines were applied to real-world patient care.

Lipid Management

The evolving lipid targets and guidelines were discussed extensively in this session. During his talk “Guidelines and Gaps in Lipid Management”, **Roger S. Blumenthal, MD**, Professor of Medicine at the John Hopkins Hospital and co-author of the 2018 cholesterol guidelines, reviewed the important changes and top takeaways from the guidelines, while also emphasizing ongoing barriers to risk stratification and the individualization of lipid therapy. Dr. Blumenthal stressed out the importance of lifestyle management in the primary prevention of cardiovascular disease, and delineated the current management for high-risk and very high-risk patients for the secondary prevention of adverse atherosclerotic cardiovascular disease (ASCVD) events—which warrant the addition of non-statin therapies (ezetimibe first, followed by a PCSK9 inhibitor) to maximally-tolerated statin therapy. **Deepak L. Bhatt, MD**, Professor of Medicine at Harvard Medical School and the leading author of the REDUCE-IT study, reviewed the totality of evidence to date with icosapent ethyl in high-risk hypertriglyceridemic patients, showing that this agent significantly reduced the risk of first and subsequent cardiovascular events regardless of baseline triglyceride (TG) levels. While this agent is not yet FDA approved to reduce cardiovascular risk, Dr. Bhatt mentioned the new guideline changes from the American Diabetes Association (ADA) and the European Society of Cardiology(ESC)/European Atherosclerosis Society (EAS)—which now recommend that in patients with established ASCVD and additional risk factors with statin-controlled LDL-C but elevated TGs (135-499 mg/dL), the addition of icosapent ethyl should be considered.

Hypertension, Chronic Kidney Disease, and Heart Failure Management

Kicking off the hypertension session, **CMHC Chair George Bakris, MD**, emphasized that we must now move beyond the guidelines and introduced a lively series of talks featuring experts **Aldo Peixoto, MD**, **Raymond R. Townsend, MD**, and **Michael A. Webber, MD**—who covered 3 important issues of hypertension management: labile hypertension, aligning home vs. office blood pressure readings, and poor adherence to hypertension treatments, respectively. Dr. Bakris then proceeded to give a detailed overview of the efficacy and safety of SGLT-2 inhibitors in chronic kidney disease (CKD) in light of the new evidence with kidney-specific trials of these agents, most recently that of the CREDENCE trial with canagliflozin. Based on the results of this trial, canagliflozin was recently FDA approved to treat diabetic kidney disease, and Dr. Bakris candidly ended his talk by saying that “SGLT-2 inhibitors are cardiorenal risk reducing agents with glucose lowering as a side effect.” The metabolic face of heart failure (HF) and its changing epidemiology was reviewed by **Mariell Jessup, MD**, Chief Science and Medical Officer at the American Heart Association—who overviewed the close association of metabolic syndrome and heart failure with preserved ejection fraction (HFpEF). Dr. Jessup spoke to the importance of controlling hypertension in this setting—“if we went home and dedicated ourselves to making sure every single one of our patients has normal blood pressure, we would probably easily prevent 60-70% of HFpEF” - she emphasized. **Javed Butler, MD**, Professor of Medicine and Physiology and the University of Mississippi, concluded the session by providing an update in the management of HF in T2D patients, including the most recent evidence of the use of SGLT-2 inhibitors and the evolving clinical guidelines in this setting.

Obesity and Lifestyle

Stephen Devries, MD, Executive Director of the Gaples Institute for Integrative Cardiology, put into perspective the confusing evidence that exists about nutrition and cardiometabolic health and synthesized key messages that every clinician can take back to their practice to address nutrition with their patients—focusing on plant-sourced diets rich in vegetables, fruits, beans, and whole grains. In an interview he gave to CMHC, Dr. Devries also stated the current gaps that exist in nutrition counseling: “I don’t believe that most clinicians regard nutrition with the same degree of importance and urgency as pharmacologic interventions. I think it’s critical that we change the mindset about nutrition. Nutritional interventions should not be considered an add-on and are not optional. Diet is fundamental to the health of every patient and needs to be considered an essential component of their care.” **Holly R Wyatt, MD**, Professor and Vice Chair for Clinical Programs at the University of Alabama Birmingham, discussed challenges and solutions that clinicians face when addressing lifestyle approaches to weight reduction. She highlighted that “weight loss is different than weight maintenance; nutrition is key in weight loss, and physical activity is key in weight loss maintenance”, while adding-- “there is no simple solution, we have to change the mindset and make it bigger than weight loss.” The increasing prevalence of obesity and its manifestation as excess fat in the liver has given rise to a growing epidemic of fatty liver and its more severe form, non-alcoholic steatohepatitis (NASH). In his talk “NASH in a Dash”, **Christos Mantzoros, MD**, Professor of Medicine at Harvard Medical School, gave an overview of the epidemiology and burden of NASH, current and emerging approaches to evaluation and diagnosis, as well as what can be done now to treat NASH and what we should look forward to the near future as results about the several investigational therapies become available. The session concluded with challenging patient cases which explored the application of several approaches to weight loss, including lifestyle, pharmacotherapy, and metabolic surgery.