



## **ACC.24 China Perspective: LBCT Summaries and Perspectives**

June 5, 2024

ACC.24 released a number of new late-breaking clinical trial (LBCT) Liu Yang research results, covering heart failure (HF), cardiomyopathy, glucose and lipid metabolism, hypertension, cardiovascular intervention and many other fields. This science has a great impact on the progress of diagnosis and treatment of cardiovascular diseases all over the world. Representative studies in several fields are briefly presented below.

### **HTN:**

At present, the treatment of hypertension (HTN) is still mainly oral medication. Complex multidrug oral treatment options may lead to poor patient compliance and low blood pressure control rates. The KARDIA-2 trial explored the possibility of clinical application of long-acting antihypertensive drugs. Zilebesiran is a therapeutic drug for subcutaneous injection targeting angiotensinogen synthesized by the liver. Results showed that a single subcutaneous injection of Zilebesiran showed clinically significant reduction in 24 hours regarding mean blood pressure (BP) and clinic systolic blood pressure in patients treated with diuretic, calcium channel blockers or the maximum dose of ARBs. The preliminary results support the possibility of combining the long-acting antihypertensive agent Zilebesiran with standard antihypertensive therapy to enhance the effect of BP reduction.

Renal sympathetic nerve is involved in the formation and maintenance of hypertension. The minimally invasive treatment technique, percutaneous renal nerve surgery, is a research hotspot in the treatment of hypertension in recent years. TARGET BP I studies showed that alcohol-mediated catheter ablation of percutaneous renal nerve surgery had a stronger blood pressure-lowering effect in patients with drug refractory or intolerance hypertension than the sham group, indicating that percutaneous renal nerve surgery is an effective means of antihypertensive treatment in such patients, laying a foundation for the clinical application.

### **Hyperglycemia:**

PCSK9 is an effective therapeutic target for reducing LDL cholesterol. The LIBerate-HR study confirmed that the third-generation novel PCSK9 inhibitor, Lerodalcicep, significantly reduced LDL-C levels and significantly reduced non-HDL-C, Apolipoprotein B, Lp(A) and triglyceride levels in patients with high-risk or very-high-risk cardiovascular diseases, with a good safety profile. The VICTORION-INITIATE study showed that the preferential use of the small interfering RNA agent targeting PCSK9, Inclisiran, has an advantage in the absolute LDL-C reduction than the current clinical practice protocol.

The risk of pancreatitis and atherosclerotic cardiovascular disease is significantly higher in patients with hypertriglyceridemia, but the current treatments are very limited, and new treatments are urgently needed. The Bridge TIMI 73a study and the SHASTA-2 study demonstrated that the antisense oligonucleotide (Olezarsen) and the small interfering RNA (Plozasiran) for apolipoprotein C-III messenger RNA significantly reduced patient triglyceride levels with good tolerance. These studies provide clinical evidence to support the use of Olezarsen and Plozasiran in patients with hypertriglyceridemia.

## **Cardiomyopathy and HF:**

Obesity and type 2 diabetes are prevalent in patients with preserved HF, and there are no approved treatments specifically for preserved heart failure with type 2 diabetes and obesity. Results from the STEP-HFpEF DM study showed that a once-weekly subcutaneous injection of semaglutide in such patients significantly reduced heart failure-related symptoms and physical limitations, and induced weight loss and improved motor function.

SGLT2 inhibitors can significantly improve the prognosis of patients with HF, bringing new options for HF treatment, but it is unclear whether they can reduce the risk of HF in patients with acute myocardial infarction (AMI). The results of the EMPACT-MI study showed that empagliflozin failed to reduce the risk of initial hospitalization or all-cause death in AMI patients at high risk of HF, but empagliflozin reduced the 23% risk of initial hospitalization events in the primary endpoints and the 33% risk of total initial hospitalization events in the key secondary endpoints. Further exploration of the benefit of empagliflozin in patients at high risk of HF in the future is necessary.

For diabetic cardiomyopathy, the ARISE-HF study showed that AT-001 treatment did not significantly improve exercise capacity compared with placebo. But subgroup analysis showed a seemingly benefit for AT-001 in patients who hadn't received SGLT2 inhibitors or GLP-1RA. How to identify diabetic patients at high risk of heart failure and conduct early intervention is still a clinical problem.

## **Coronary Heart Disease:**

After percutaneous coronary intervention (PCI) in patients with acute coronary syndrome (ACS), current clinical guidelines generally recommend dual antiplatelet therapy for 12 months to prevent myocardial infarction and stent thrombosis. However, there are few data on the effect of single antiplatelet therapy with potent P2Y<sub>12</sub> receptor inhibitors in ACS patients within 12 months after PCI. The results of the ULTIMATE-DAPT study showed that in ACS patients without severe adverse ischemia and bleeding events after one month of DAPT treatment, ticagrelor monotherapy for one-to-12 months reduced clinically-related bleeding and major bleeding, with similar protective effects on MACE. This study suggests that appropriate shortening of dual antiplatelet therapy duration may be considered in patients with ACS after PCI with high bleeding risk.

Out of all patients with STEMI, about half of those undergoing PCI had multivessel disease. For non-culprit vessels, it remains unclear whether revascularization is beneficial or not. FULL REVASC Trial results indicate that conventional fractional flow reserve-guided complete revascularization is not superior to culprit-only PCI in reducing the risk of any cause death, myocardial infarction, or unplanned revascularization composite events in STEMI or extremely high-risk NSTEMI patients with multivasculopathy. The results of this study are very valuable for making the right clinical decisions.

In summary, the latest developments and cutting-edge progress in the cardiovascular field released at ACC.24 will undoubtedly have a far-reaching positive impact on the prevention, treatment and scientific research of cardiovascular diseases in China. We look forward to another exciting annual scientific session next year!

**ACC.25** will be held March 29-31, 2025, in Chicago, IL.

*This article was authored by Liu Yang, MD, and Kai Huang, MD.*

*This content was developed independently from the content developed for ACC.org. This content was not reviewed by the American College of Cardiology (ACC) for medical accuracy and the content is provided on an "as is" basis. Inclusion on ACC.org does not constitute a guarantee or endorsement by the ACC and ACC makes no warranty that the content is accurate, complete or error-free. The content is not a substitute for personalized medical advice and is not intended to be used as the sole basis for making individualized medical or health-related decisions. Statements or opinions expressed in this content reflect the views of the authors and do not reflect the official policy of ACC.*