

Bridging the Gap, Facing the Challenge—the 26th Great Wall International Congress of Cardiology (GW-ICC)

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Abstract: The joint venue of the 26th Great Wall International Congress of Cardiology (GW-ICC) & Asia Pacific Heart Congress 2015 (APHC 2015) & International Congress Cardiovascular Prevention and Rehabilitation 2015 (ICCPR 2015) were held from October 29 to November 01, 2015 at the China National Convention Center (CNCC), Beijing, China. This year's conference focused on cardiovascular disease prevention, health promotion, education and training, as well as disease management and rehabilitation.

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The joint venue of the 26th Great Wall International Congress of Cardiology (GW-ICC) & Asia Pacific Heart Congress 2015 (APHC 2015) & International Congress Cardiovascular Prevention and Rehabilitation 2015 (ICCPR 2015) were held from October 29 to November 01, 2015 at the China National Convention Center (CNCC), Beijing, China. The GW-ICC was founded in 1990 as a simple technical training course entitled “International Great Wall Training Course—Sino-US Radiofrequency Ablation Seminar”, with less than 100 participants. Since then, the GW-ICC & APHC & ICCPR has evolved into the largest medical congress in the Asia-Pacific region and one of the most influential academic conferences focused on cardiology. Nearly 3,000 leading experts and over 15,000 participants from more than 30 countries attended the conference this year. This cardiology venue offered an excellent platform for physicians and scientists to network and share expertise on various topics in the pathogenesis, therapeutics and management of cardiovascular diseases. This type of information exchange program has helped cardiologists and scientists to gain a better understanding of evolving clinical problems and cutting-edge therapeutic remedies. Over the past years, GW-ICC has established an alliance to empower information exchange with

international associations including the American College of Cardiology (ACC), the World Heart Foundation (WHF), the European Society of Cardiology (ESC), the American Heart Association (AHA), the Heart Rhythm Society (HRS), Japanese Circulation Society (JCS), American Society of Echocardiography (ASE), Chinese American Heart Association (CnAHA), China Committee of Cardio-Cerebral-Vascular Diseases of GSC (GSC), Global Chinese College of Cardiology, the Cardiovascular Information Technologies (CVIT), and the Society for Cardiac Angiography and Interventions (SCAI).

According to the World Health Organization (WHO), non-communicable diseases were responsible for 38 million deaths (68% overall mortality) in 2012. Nearly 50% of the mortality related to non-communicable disease conditions resulted from cardiovascular diseases, making cardiovascular disease the number 1 cause of death worldwide, including China. To gain a better knowledge for the prevention and management of cardiovascular diseases, the central theme of the 26th GW-ICC & APHC 2015 & ICCPR 2015 was “*Bridging the Gap, Facing the Challenge*”. Many ‘hot topics’ were discussed ranging from translational research, prevention and risk management, coronary intervention, structural heart disease, heart failure and left ventricular

function, pacing and cardiac electrophysiology, imaging and diagnostics, to clinical research as well as interregional collaborations in crossover studies of related disciplines. The scientific program covered more than a dozen of sub-specialties and included presentations by nationally and internationally renowned speakers, discussing the latest discoveries and developments. In addition, more than 400 academic exchange activities, exhibition and joint forums were held. On the first day, a number of landmark speeches were delivered focused on evidence-based medicine, management of heart failure, intervention therapy for coronary heart diseases, arrhythmia. Speakers included internationally renowned scientists such as Prof. Sidney Smith (former AHA President), Prof. Kim A. Williams (current ACC President), Prof. Michel Kornajda (former ESC president), Prof. Prasart Laothavorn (current APSC president), Prof. Joseph Hill (Circulation Editor-in-Chief elected) and Prof. Gregory Lip. These sessions provided a unique opportunity to bring together global experts in the field of cardiology and related disciplines. Various novel technologies and devices used for clinical diagnosis and treatment were discussed, which should generate changes in cardiac health management. Attendees were provided with additional access to academic materials and live presentation through the congress online website, micro-blog, mobile application, mobile text, e-magazine, webinar and other social media. In the following we will highlight a few interesting topics during this venue.

In the 'AHA@GW-ICC-Go Red for Women symposium', various issues for women health, prevention and treatment of cardiovascular disease were discussed. Until recently, woman health issues in general and specifically cardiovascular disease has been neglected worldwide. For example, few studies have addressed gender differences in heart failure prevalence and females constitute only a small percentage of subjects enrolled in heart failure clinical trials. Atherosclerotic heart diseases has erroneously been considered a "male disease", and professional organisations like the AHA have only more recently emphasized the need for improved general awareness of cardiovascular diseases in women (1,2). A few years ago AHA has implemented an awareness program named "Go Red for Women" in the US and is now implemented a similar program together with local partners in China. In this session, approaches to cardiovascular disease prevention in women, and in particular Asian women in particular, were addressed. Professor Mariell Jessup from School of Medicine at the University of Pennsylvania discussed

some of the clinical management issues related to heart failure in women. She presented the current knowledge about healthy life style and value of prevention, but also state-of-the-art therapeutic options. According to data from the Framingham Heart Study, females are twice as likely to be afflicted with heart failure with preserved ejection fraction (HFpEF), which is associated with a relatively lower survival rate (3). HFpEF is associated changes in ventricular-vascular properties associated with aging and hypertensive remodeling for the heart (3). However, the reasons for the gender disparity are incompletely understood. Ventricular and arterial stiffness increases with age in both genders with a more dramatic rise in females. Women tend to display concentric left ventricular remodeling and less ventricular dilatation in response to arterial hypertension. The age-gender interaction may happen in a way that left ventricular function changes across one's lifespan although systolic and diastolic function as well as the ventricular reserve decline more in postmenopausal women as opposed to their male counterparts, despite similar or better function in women prior to menopause (3,4). Prof. Jessup emphasized the essential role of healthy life style for women in the prevention of heart failure. Other topics being discussed include percutaneous coronary intervention (PCI) in female patients with acute myocardial infarction, especially for patients in China. It appears that many classical cardiovascular risk factors impart differential risks for women and men, making gender-specific risk assessment and management an important issue for cardiovascular disease outcomes in women.

In recent years, novel lipid lowering agents have been developed as adjunctive of alternative treatment option beyond classical statin therapy. At this GW-ICC meeting, Dr. Peter Paul Toth, Chief of Preventive Cardiology at the Illinois CGH Medical Center discussed the utility of proprotein convertase subtilisin/kexin type 9 (PCSK9) as a new entity of lipid lowering agents. Aggressive lipid control using statins have greatly reduced the number of cardiovascular event. In July 2015, the US Food and Drug Administration (FDA) approved 2 monoclonal antibodies (alirocumab and evolocumab) to PCSK9 to lower the LDL-C levels (5). Reduction of PCSK9 is suggested to greatly lower the levels of LDL-C (to 40 mg/mL or even 25 mg/mL), thus to retard the progression of cardiovascular disease. Long term use of alicumab is proven to drastically reduce the overall cardiovascular event rate. A one-year follow-up study revealed reduced risk of myocardial infarction, stroke and overall cardiovascular mortality.

Meanwhile, the risk of acute coronary syndromes and late cardiovascular events can also be reduced by half. The issue of HDL-C in the clinical management of cardiovascular disease was also discussed. As of now, HDL-C is not favored to serve as the primary therapeutic target and compelling evidence is still lacking for the correlation between HDL-C and cardiovascular event. This is not to deny the value of elevated HDL-C but more likely to suggest lack of knowledge for HDL-C in the clinical setting. Composition is rather complex for HDL-C with 200 some lipid components, each may exert its corresponding function. It is only after elucidation of the specific role of these molecules before HDL-C will gain importance as a therapeutic target.

The GW-ICC conference also provided a platform to discuss cohort studies between China and other countries. Several reports from this GW-ICC conference including those led by Prof. Yifang Guo (HeBei People's Hospital), Xiaowei Yan (PUMC Hospital) and Yundai Chen (PLA General Hospital) have analyzed and discussed the close associations among diabetes, sweetened beverage consumption and cardiovascular risks after adjustment for other risk factors. This is supported by a recent report from UK that men consuming two or more servings of sweetened beverage had a higher risk of developing heart failure compared to non-consumers. Enrollment for this UK-based cohort study was conducted between 1998 and 2010 and comprised 42,400 individuals 45-79 years of age. In the 11.7 year follow-up, a total of 4,113 heart failure events were identified (6). These findings suggested that not only diabetes but also sweetened beverage consumption may be associated with higher risk of heart failure. Such findings should have important implications for heart failure prevention strategy.

Many PCI techniques and related issues were covered during this GW-ICC conference. Prof. Xinchun Yang from the Chaoyang Hospital in Beijing discussed the current controversy of dual antiplatelet therapy (DAPT), following coronary percutaneous interventions (PCI). After PCI with stent placement, consensus statements and guidelines recommend a minimal duration of at least 12 months of DAPT after drug-eluting stents (DES) implantation. Balancing long-term risks for bleeding and thrombosis has been challenging. Overall, prolonging DAPT significantly reduces coronary thrombotic events, possibly at the expense of excess risk of nonfatal bleeding. Not surprisingly, clinical decisions vis-à-vis DAPT duration post-PCI should be carefully evaluated based on the long-term risks for both ischemic and hemorrhagic complications after

PCI. Up-to-date, analogous data for bleeding are mainly centered on periprocedural events, a period with debatable representative value for the true clinical relevance of longer versus short DAPT duration. Among DAPT-treated patients, ticagrelor has emerged as the preferred P2Y12 antagonist in patients undergoing angiography, whereas clopidogrel tended to be prescribed to patients treated non-invasively (7).

To better advance cardiovascular research in China, the GW-ICC has established a close relationship with AHA to co-sponsor a series of AHA-GWICC joint sessions. The GW-ICC and the Basic Cardiovascular Science Council (BCVS) of the AHA has established the Basic-Translational Medicine Forum, which has witnessed significant success in past years. A number of world-renowned basic and clinician-scientists representing AHA and specifically BCVS were invited to be a part of 5 sessions designated as AHA-BCVS Expert Forums. We were fortunate to present or serve as sessions chair for these events. The speakers, along with domestic speakers, presented their late breaking findings in basic, translational and clinical cardiovascular science. Key advances in the following topics including Cardiovascular Signaling, Systemic Biology, Epigenetic Control and Cell therapy in Cardiovascular Disease were presented, with an emphasis on the topic 'From Basic Science to Clinical Practice'. In the field of "Cardiovascular signaling" there was an emphasis of new regulator and protein modification of cardiac signaling in an effort to explore new therapeutic target in heart failure. In the area of "Epigenetic Control in Cardiovascular Disease", experts discussed the status, cutting-edge issues, and trends related to epigenetic control in cardiovascular diseases. Additional sessions were organized as the National Natural Science Foundation of China (NSFC) International Vascular Forum—ATVB/CAAC the Great Wall International Conference of Cardiovascular Forum. Much of the talks in these sessions were devoted on novel research on vascular angiogenesis and development, injury and repair. In particular, the current status of translational research of vascular damage, repair and genomics was discussed by senior officials from NSFC (Prof. Erdan Dong and Prof. Ruijuan Sun).

In summary, the 2015 GW-ICC conference provided benchmarks for cardiovascular disease prevention, health promotion, education and training, as well as disease management and rehabilitation. The conference has focused on knowledge promotion, professional training, academic exchange and international crossover studies. Partnering with the leading cardiology organizations worldwide, the

GW-ICC is engaged to advance cardiology research and clinical management.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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