

## INTERNATIONAL CORNER: ASNC 2016 INTERNATIONAL SESSION—EDITORIAL

## Challenges and Opportunities in Nuclear Cardiology from Latin American and Asian Perspectives

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One of the most important missions of the American Society of Nuclear Cardiology (ASNC) is to improve the quality of clinical practice of nuclear cardiology around the world. Cardiovascular disease (CVD) remains the leading cause of death throughout the world, especially in developing nations where 80% of CVD deaths occur (1).

With this in mind, ASNC conducted international sessions as part of the 21<sup>st</sup> Annual Scientific Session in September 2016 in Boca Raton, FL, and focused on the current status of nuclear cardiology in two regions where mortality remains high, Latin America and Asia.

**Latin American perspective**

In sessions on Latin America, regional representatives Drs. Amalia Peix (Cuba), Fernando Mut (Uruguay), Maria Cecilia Ziadi (Argentina), João Vitola (Brazil), Gabriel Grossman (Brazil) and Erick Alexanderson (Mexico) discussed CVD in Latin America, specifically issues related to coronary artery disease (CAD) and heart failure (HF), including nuclear cardiology imaging in HF. Given the aging population, the number of HF patients is expected to rise in this region. Managing the increasing number of HF patients is already challenging especially considering socio-economic conditions in some of the countries in this region (2). The Latin America region is very heterogenous socio-economically speaking and in terms of clinical practice. Efforts have been made and articles have been published in attempts to standardize nuclear cardiology practice in Latin America despite these challenges. Latin American countries have introduced new nuclear cardiology imaging techniques to improve patient care. These include <sup>123</sup>I-meta-iodobenzylguanidine (<sup>123</sup>I-MIBG) (3). The

clinical utility of <sup>123</sup>I-MIBG to evaluate the severity of HF and predict sudden cardiac death and cardiac death related to HF has been established (4, 5). The initial experiences involving <sup>123</sup>I-MIBG and its clinical roles were presented in these Latin America sessions. To improve clinical practice and clinical research, official scientific journals play important roles (6). One of these is the online Asociación Latinoamericana de Sociedades de Biología y Medicina Nuclear (ALAS-BIMN) journal (<http://www.alasbimnjournal.net/>), the Spanish-language official publication of the association of nuclear medicine societies in Latin America. These kinds of efforts help to overcome language barriers and to bring the latest scientific information to several Latin American nuclear cardiology communities in Spanish.

**Asian challenge**

In the Asian session, Dr. Felix Keng (Singapore) reported on current issues in cardiovascular disease in Asia (7). As diets have rapidly become westernized, there has been a dramatic increase in obese population in Southeast Asia, which has also led to increases in diabetes mellitus, hypertension and hyperlipidemia. Therefore cardiovascular disease mortality in the region has increased compared to that associated with infectious disease (8). Such sudden shifts in disease type are quite remarkable and very dramatic, and consequently governments in the region face difficulties in managing the increasing number of cardiovascular disease patients. This situation presents a major challenge to Asian countries (8) and has significant socio-economic impacts.

In light of increases in cardiovascular disease population, many Asian countries are now experiencing shortages of

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medical resources including those required for cardiac imaging. This is in contrast to the case in some other Asian countries, where an over-supply of medical resources exists, including those associated with cardiac imaging tests. Dr. Vikram Lele (India) reported on the availability of cardiac computed tomography angiography (CTA), echocardiography, and single-photon computed tomography (SPECT) myocardial perfusion imaging (MPI) in India. He also reported on the different costs of these tests and the difficulties in trying to provide high quality MPI at the lowest possible cost. (9). Doing so is especially challenging given the high costs of radiopharmaceuticals necessary for SPECT MPI. As a result, many hospitals in India prefer CTA or stress echo for diagnosing CAD, which are potentially more cost-effective for hospitals. Japan has a similar issue. Reimbursement for CTA costs only 125 USD but for SPECT MPI costs 850 USD. Every year, the Japanese Circulation Society issues statistics on medical procedures and diagnostic testing through the Japanese Registry of All Cardiac and Vascular Diseases (JROAD). JROAD statistics clearly show the rapid increase in the total number of CTA tests for CAD diagnosis and the concomitant rapid decrease in the use of SPECT MPI (10, 11). In this regard, in both India and Japan maintaining or increasing the numbers of nuclear cardiology imaging tests in clinical settings is proving difficult. Clearly the Asian region has a mixture of challenges, with under-availability of diagnostic tests in some countries and over-availability in others.

### Future perspectives

In the ASNC 2016 international sessions, we recognized the importance of the current situation of CAD and nuclear cardiology in several countries. Rapidly increasing incidence of CVD in the regions discussed is a major challenge. Under-supply of medical resources in those regions is an additional obstacle. Competition among cardiac imaging modalities is an additional difficulty faced in our regions. On the flip side, we have the tools and the knowledge necessary to fight this increase in CVD on a variety of fronts from prevention to the use of technology. We can provide high-quality medical service in these 2 world regions. We have sound arguments to convince cardiologists that physiological imaging through nuclear cardiology is an important part of the solution to this problem. In this regard, scientific meetings with an international focus, such as we witnessed at ASNC 2016, present great opportunities. At these ASNC international sessions, we recognized the current situations and challenges of nuclear cardiology. We will further discuss these important issues at the upcoming ASNC 2017 in Kansas City. The Japanese Society of Nuclear Cardiology (JSNC) also recognizes the importance of discussing issues of regional significance and is

therefore currently planning to have the first Asian session at next year's annual scientific meeting, to be held in Tokyo in July.

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### Conflicts of interest

None.

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