Abstract

Cardiac sympathetic dysfunction is closely associated with risk of cardiac events in heart failure (HF), indicating HF progression and sudden cardiac death by lethal ventricular arrhythmia. For cardiac sympathetic nervous system imaging, \(^{123}\text{I-}\text{MIBG}\), among other agents, has been approved by the Japanese health and welfare ministry and is widely used in clinical settings. \(^{123}\text{I-}\text{MIBG}\) was also approved by the Food and Drug Administration (FDA) in the United States of America (USA) and is expected to achieve broad acceptance. In Europe, \(^{123}\text{I-}\text{MIBG}\) is currently used only for clinical research. Given the current situation, the American Society of Nuclear Cardiology (ASNC) and the Japanese Society of Nuclear Cardiology (JSNC) are preparing to issue clinical guidelines for \(^{123}\text{I-}\text{MIBG}\) imaging in Ann Nucl Cardiol.

Keywords: \(^{123}\text{I-}\text{MIBG}\), Arrhythmia, Guidelines, Heart failure, Sympathetic nervous system

Next steps for \(^{123}\text{I-}\text{MIBG}\) imaging

As previously mentioned, Japanese research groups have extensively shown the clinical usefulness of \(^{123}\text{I-}\text{MIBG}\). Nakata et al. reported Japanese pooled data on heart failure (HF) (6). This pooled data revealed the long-term prognostic value of \(^{123}\text{I-}\text{MIBG}\) imaging. The prognostic markers of \(^{123}\text{I-}\text{MIBG}\) include heart-to-mediastinum ratio (HMR) in early image and delayed image. These semi-quantitative data are widely used; however, there was no standardized data analysis until Nakajima and his colleagues established standard approaches to \(^{123}\text{I-}\text{MIBG}\) imaging (7-9). Nakajima and his colleagues are working with several international research groups to transform standard approaches to \(^{123}\text{I-}\text{MIBG}\) imaging in Europe and the USA. In Europe, although some research groups have shown the prognostic value of \(^{123}\text{I-}\text{MIBG}\) imaging in well-designed trials (10), \(^{123}\text{I-}\text{MIBG}\) has not been approved...
During our discussion at the ASNC/JSNC joint session, we noted the importance of conducting multi-national and multi-center trials with large sample sizes. Data from such trials would help to confirm the usefulness of $^{123}$I-MIBG imaging and could hasten the approval process in countries beside Japan and USA.

**Conclusions**

The first ASNC/JSNC joint session at the 26th annual scientific meeting of JSNC revealed the importance of $^{123}$I-MIBG in the development of sympathetic nervous system imaging. We hope this joint session will lead to further inspiration and collaboration between the two societies.

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**Conflicts of interest**

None

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