Editor's Page

Heart Failure Practice in Japan: Successful at Present, but Challenging in the Future

HIROYUKI TSUTSUI, MD, PhD

Fukuoka, Japan

Heart failure (HF) is a global health problem with increasing prevalence and cost worldwide.[1–3] In Japan, the number of patients with HF admitted to nationwide hospitals increased by 24% from 210000 in 2012 to 260000 in 2016 while that of acute myocardial infarction increased by 5.7% from 69000 to 73000 during the same period.[4] Substantial differences in outcomes by country, among patients with HF, have been reported in a recent analysis of the most geographically, racially and ethnically diverse cohort published to date.[5] These differences might be due to ethnic or genetic variations, life style, environmental factors, socioeconomic status, and other factors associated with cardiovascular risk; however, differences in healthcare systems and HF practice also warrant consideration. Japan had the lowest mortality rate among 55 countries. Why might this be so? Perhaps the most important characteristic of the Japanese healthcare system was launched in1961: universal health coverage by social health insurance. It is composed of employee-based and community-based plans. The same fee schedule has been enforced for all plans by the government and all providers have maintained equity and contained costs. The co-payment rate is the same for the entire population (30%) except it is lower for the elderly and children.[6] This system has ensured equality of medical services and provision of and access to comprehensive health care across the population.

Standard in-hospital HF practice in Japan includes not only acute care but also management approaches such as medication reconciliation and titration, assessment of indication and implantation of devices such as ICD and/or CRT, assessment of various co-morbidities associated with HF (coronary artery disease, arrhythmias, diabetes mellitus, CKD, anemia, COPD, and more), exercise programming and disease management including education for patient and caregiver, and post-discharge follow-up planning, all of which are covered in-hospital by insurance. This practice prolongs length of stay (LOS) up to 20 days on average compared to 4 days in the United States.[7] The longer LOS is considered to be the major contributor to lower 30-day HF readmission rates (approximately 5%) in Japan. In contrast, in the United States, the 30-day readmission rate after discharge for HF is as high as 25% and most readmissions occur within 15 days after discharge.[8] This suggests that "shorter" LOS does not necessarily mean "better" HF care. HF readmission has been recognized not only as an important medical issue but also a socioeconomic burden which greatly increases healthcare costs. Further studies are needed to identify the "best" LOS which could be both clinically efficient in terms of in-hospital and long-term outcomes and cost-effective under different healthcare systems.

The management of volume overload is also different. Tolvaptan, an oral vasopressin type 2 receptor antagonist, was approved in Japan to treat organ congestion in HF since 2010 and is now widely used as a diuretic in combination with loop diuretics.[9] In the United States, it is approved only for the treatment of hyponatremia based on the EVEREST trial, in which it did not improve long-term HF outcomes. In Japan, its use has now expanded to prevent worsening of congestion and hospitalization due to HF. This "high-cost" diuretic therapy in the outpatient setting is also covered by insurance in Japan even though the efficacy and safety of this treatment strategy, especially the cost-benefit, still need to be proved by an appropriately designed study.

The percentage of the elderly Japanese population increased 4-fold from 5.7% in 1960 to 25.9% in 2014, associated with an increase in patients with repeated hospitalization due to worsening HF. Our practice, which reduces HF readmissions, appears to be satisfactory at the present; however, it shall be challenging to sustain in the future due to its high cost and the increasing number of elderly patients. Recent global studies have provided a greater understanding of the differences in HF practice and

From the Department of Cardiovascular Medicine, Faculty of Medical Sciences, Kyushu University, Fukuoka, Japan.

Address for correspondence: Hiroyuki Tsutsui, MD, PhD, Department of Cardiovascular Medicine, Faculty of Medical Sciences, Kyushu University, 3-1-1 Maidashi, Higashi-ku, Fukuoka 812-8582, Japan Tel: +81-92-642-5355 Fax: +81-92-642-5374. E-mail: htsutsui@cardiol.med.kyushu-u.ac.jp

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outcomes across the world, which may be helpful as we attempt to establish more efficient HF management strategies in both the United States and Japan.

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