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Editorial

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Current Practices of Percutaneous Coronary Intervention in Korea between 2011 and 2015

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▶ See the article "Trends, Characteristics, and Clinical Outcomes of Patients Undergoing Percutaneous Coronary Intervention in Korea between 2011 and 2015" in volume 48 on page 310.

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The number of percutaneous coronary intervention (PCI) procedures for coronary artery disease has dramatically increased as a result of technical and pharmacological advances. As well as PCI procedures in patients with acute coronary syndromes (ACSs), stable angina is one of the most common indications for PCI. In ACS, previous trials have shown that an invasive strategy of early and appropriate revascularization improved clinical outcomes.[1] However, the value of PCI in preventing major adverse cardiac events compared with optimal medical therapy alone in patients with stable angina is controversial.[2] The Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation (COURAGE) trial and the Bypass Angioplasty Revascularization Investigation 2 Diabetes (BARI 2D) trial failed to show a benefit of PCI over optimal medical therapy in patients with stable angina.[3] PCI in patients with stable angina has decreased significantly after COURAGE and BARI 2D trials.[4] Moreover, the baseline characteristics of the patients who received PCI have changed over time. Consequently, identifying national trends is important to develop national clinical guidelines and implementation of these guidelines into clinical practice. In Korea, diversity in ethnicity is quite different from either Europeans or Americans. In addition, recent westernization has influenced lifestyle, diet, and disease patterns in Korea. In this aspect, Han et al.[5] provided valuable evidence of the national trend for PCI in Korea.

The authors[5] reported a large nationwide data showing the current practice of PCI in patients with angina pectoris and acute myocardial infarction (AMI) in Korea, and they have well summarized current trends, characteristics, and clinical outcomes of PCI in Korea between 2011 and 2015. This study showed that comorbidities such as hyperlipidemia increased in patients with angina pectoris and AMI from 2011–2012 to 2014–2015. On the other hand, the incidence of hypertension decreased from 2011 to 2015, but other diseases including diabetes and congestive heart failure did not show significant changes in both groups. Proportion of male patients undergoing PCI slightly increased from 2011 to 2015. In comparison to recent Japanese and U.S. nationwide registry,[6] prevalance of hypertension, dyslipidemia, and diabetes mellitus in patients undergoing PCI were relatively low in Korea (56.0% in Korea vs. 74.6% in Japan vs. 81.8% in the USA, 37.8% vs. 63.0% vs. 80.0%, and 33.1% vs. 43.3% vs. 35.8%, respectively). However, in-hospital mortality was relatively higher in Korea when compared to Japan and the USA (2.6% vs. 0.9% vs. 1.1%, respectively). Mean age and

proportion of male were comparable with U.S. cohort (64.4 vs. 64.8 years, 69.7% vs. 67.2%, respectively). The proportion of patients over 75 years was silmilar with the USA data.[4] In UK registry between 2007 and 2013, comorbities in patients undergoding PCI in UK were different from Korea,[7] higher hypercholesterolemia (52.5%) and less diabetes mellitus (17.6%).

There was a significant 10% increase in the numbers of PCI for angina from 2011–2012 to 2014–2015 in Korea. However, the number of PCI for AMI decreased marginally between 2011–2012 and 2014–2015. After peak volume in 2006 in the USA, PCI volume in patient with stable angina pectoris dramatically dropped in 2011 after COURGAGE trial.[4] The PCI volume for MI was either steady or showed an increase with time in the USA. In Korean data, the prevalence of risk profiles such as hypertension and diabetes in patients with AMI were steady or decreased slightly between 2011 and 2015. The number of PCI procedures in patients with angina pectoris increased between 2011 and 2015. Recent efforts for educating cardiovascular diseases in general population might have been correlated with the early need for PCI procedures in Korea. Moreover, technical medical advances led to perform PCI in those patients with multiple comorbidities with complex coronary morphology.[8] Nonetheless, as the authors pointed out, the use of optimal medical therapy remained suboptimal in Korea. Greater acceptance in both physicians and patients to adopt optimal medical therapy and implementation of appropriateness criteria for PCI in physicians should be emphasized. Recommended pharmacological therapies such as antiplatelet agent, statin, angiotensin converting enzyme (ACE) inhibitors/angiotensin receptor blockers (ARBs), and beta blocker in patients with angina and AMI will improve future prognosis.[9] Market share of drug-eluting stents (DESs) in Korea was about 93% throughout 2011 and 2015, in comparison to relatively higher use (about 25% in 2010) of bare-metal stents (BMSs) in the USA and UK data.[4][7] Current practice pattern of mostly using DES for PCI in Korea reflected better angiographic and clinical outcomes of newer-generation DESs over BMS.[10] The limitation of this study is that unstable angina was not well defined. However, this study provided a comprehensive national trend for PCI in Korea. It is clear from the worldwide available evidence that PCI in patients with either angina or AMI has improved quality of life and clinical outcomes. This study by Han et al.[5] will provide evidence for achieving consensus on PCI in the Korean population with angina and AMI, and will provide fundamental references for future PCI trials in Korea.

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