<S13-2>

Development of a Dedicated Ischemia/Bleeding Risk Scoring System for East Asians

Kyung Woo Park
Seoul National University, Korea

In determining the optimal duration of DAPT after PCI, scoring systems may help identify the ischemic and bleeding risk of an individual. However, current scoring systems have major limitation in current practice and in East Asians patients. To develop a discrimination tool to predict ischemic and bleeding events in East Asians receiving PCI with 2nd generation drug-eluting stents (DES), we developed a pooled cohort of five stent registries (the Grand DES cohort), from January 1, 2004, to November 31, 2014 in 55 centers in Korea.

A total of 13,172 patients receiving PCI with 2nd generation DES for coronary artery disease were included in the derivation cohort for analysis. The primary ischemic end point was a composite of myocardial infarction (MI) or definite or probable stent thrombosis (ST) during the 3-year follow-up duration. The primary bleeding end point was major bleeding (as defined by the TIMI criteria), during the 3-year follow-up duration. We developed a scoring system to predict ischemic and bleeding events, respectively, during 3-years after index PCI. A net score was calculated by subtracting the bleeding score from the ischemic score. External validation was performed in the HOST-ASSURE and NIPPON trials.

Among the total population, 195 patients (1.5%) developed ischemic events and 166 patients (1.3%) developed bleeding events. The C-statistics of the score to predict ischemic events and bleeding events was 0.692 and 0.620, respectively. The best cutoff value for both scores was 3.0, showing a significantly higher event rate in the high low score groups. Patients with a net score ≥1 had higher ischemic risk compared to bleeding risk, and patients with a net score ≤0 had higher bleeding risk compared to ischemic risk. The validation cohort showed a C-statistic of 0.645 for ischemic events and 0.618 for bleeding events.

In conclusion, we developed a novel scoring system to predict ischemia and bleeding events in East Asian patients. This system can be used in the clinic to assess clinical event risks, and to determine the adequate duration of DAPT duration in East Asians.