

**Abstract Type : Oral**

**Abstract Submission No. : OR-1246**

## **Predictability of Systolic Blood Pressure at Discharge on the Risk of End-Stage Renal Disease after Percutaneous Coronary Intervention**

**Donghwan Yun**, Dong Ki Kim, Kwon Wook Joo, Yon Su Kim, Seung Seok Han  
Department of Internal Medicine-Nephrology, Seoul National University Hospital, Korea, Republic of

**Objectives:** Patients undergoing percutaneous coronary intervention (PCI) require strict blood pressure (BP) control, because uncontrolled BP is related with worse outcomes. However, it remains unresolved whether uncontrolled BP predicts the risk of end-stage renal disease (ESRD) and what a target BP to lower this risk is.

**Methods:** A total of 8,204 adult patients undergoing percutaneous coronary intervention (PCI) were reviewed from the Seoul National University Hospital between 2006 and 2016 years. BPs at admission or discharge were initially compared by time-dependent receiver operator characteristic curves. The best predictive BP was further validated using Cox proportional hazard ratio (HR) model and competing risk analysis. Aalen's additive Cox model with penalized spines was applied to evaluate a potential target value of BP related with an elevated risk of ESRD.

**Results:** During the median follow-up period of 6.5 years (maximum 13 years), ESRD occurred in 125 patients (1.6%). Among the systolic and diastolic BPs at admission or discharge, systolic BP at discharge was the best predictor of ESRD after PCI. When systolic BPs were categorized by quartiles, the 4<sup>th</sup> quartile group had a higher risk of ESRD than the 1<sup>st</sup> quartile (adjusted HR, 2.9 [1.45–5.76];  $P = 0.003$ ). The predictability of systolic BP remained consistent despite applying competing risk analysis with all-cause mortality. When penalized spine model was applied, 126 mmHg was selected as the best cut-off value related with the risk of ESRD.

**Conclusions:** High systolic BP at discharge is predictive of ESRD after PCI procedure. Accordingly, monitoring and reduction of high BP may be recommended to prevent the risk of ESRD in patients undergoing PCI.

Figure 1. Kaplan-Meier curve of ESRD according to blood pressure at discharge

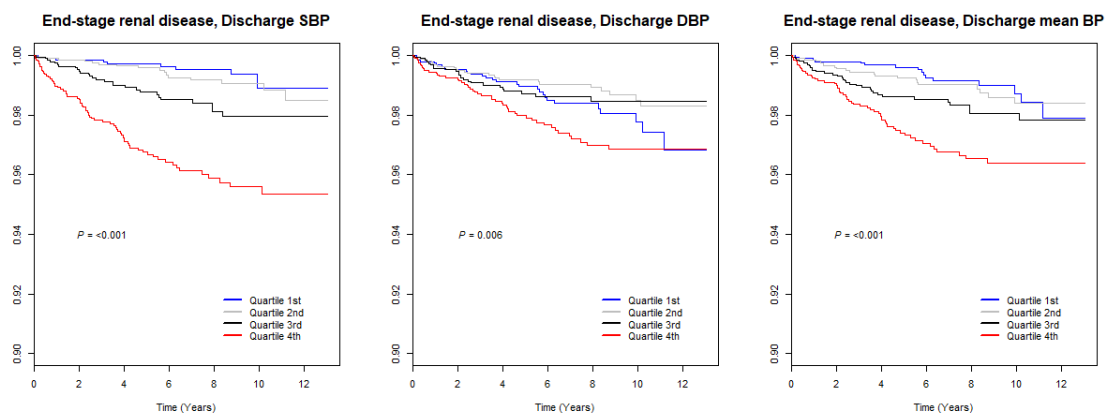


Figure 2. Additive cox regression of blood pressure at discharge

