Extended Abstract
Volume 5:2, 2021

Journal of
Interventional and General Cardiology

ISSN: 2684-4591 Open Access

Can Non-Procedural Patient Characteristics Predict in Hospital Complications following Percutaneous Coronary Intervention?

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Abstract

Objectives: To identify non-procedural predictors of in-hospital complications following elective percutaneous coronary interventions (PCIs).

Methods: Using the Nationwide Inpatient Sample (NIS) data from 1998-2013, we identified patients 18 years of age and older who were electively admitted for PCI. Post-PCI complications were defined as the occurrence of any of the following: acute cerebrovascular accident, acute kidney injury, vascular complications and blood transfusion, iatrogenic cardiac complications, cardiogenic shock, cardiac arrest or in-hospital mortality. Post-PCI same-day discharges (SDDs) were identified. Binary logistic regression was used to identify the independent predictors of post-PCI complications. Receiver Operating Characteristic (ROC)-derived Area under the Curve (AUC) was used to determine the discriminatory power of the model.

Results: We identified 373,223 patients who were electively admitted for PCI as the index procedure. 18,430 patients (4.9%) developed post-PCI complications. Several covariates showed a statistically significant association with post-PCI complications [(O.R., 95% CI, P-value), age (1.009, 1.007-1.010, 0.0005), female sex (1.465, 1.421-1.511, 0.0005), hypertension (1.172, 1.094-1.255, 0.0005), congestive heart failure (1.139, 1.080-1.200, 0.0005), diabetes with end-organ damage (1.145, 1.057-1.241, 0.001), atrial fibrillation (1.515, 1.437-1.596, 0.0005), atrial flutter (1.438, 1.215-1.701, 0.0005), morbid obesity (1.216, 1.089-1.358, 0.001), chronic kidney disease (1.099, 1.008-1.199, 0.032) and Charlson comorbidity index (1.229, 1.216-1.244, 0.0005)], although the model was a poorfit with suboptimal discriminatory power (ROC-derived AUC=0.6).

Conclusion: Non-procedural variables lack the ability to predict short-term adverse outcomes following elective PCI and probably should not be used in decision-making for SDD following PCI

Keywords: Same-day discharge • Percutaneous coronary intervention • In-hospital outcomes

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Received 16 January 2021; **Accepted** 11 February 2021; **Published** 18 February 2021

How to cite this article: Gaurav Patel, Sukrut Nanavaty, John Coppola, Tak Kwan, Tejas Patel and Samir Pancholy. Efficient and Safe Technique for Repair of Adult Re-Coarctation with Cardiovascular Pathologies. J Interv Gen Cardiol 5 (2021): e102