COMPARING UTILIZATION OF TIMI RISK INDEX VERSUS KILLIP CLASS AT PRESENTATION IN DETERMINING THE NEED OF ADMISSION TO CORONARY CARE UNIT FOR ACUTE ST ELEVATION MYOCARDIAL INFARCTION PATIENT AFTER SUCCESSFUL PRIMARY PERCUTANEOUS CORONARY INTERVENTION: SINGLE CENTRE STUDY

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 3:30 p.m.-4:45 p.m.

Session Title: PCI - Acute MI
Abstract Category: 6. PCI - Acute MI
Session-Poster Board Number: 2506-579

Authors: Vern Hseen Tan, Chong Hiok Tan, Jeremy Chow, Kok Soon Tan, Jayaram Lingamanaicker, Victor Lim, Khim Leng Tong, Gerard Leong, Hwa Wooi Gan, Sea Hing Ong, Yew Seong Goh, Colin Yeo, Yiong Huak Chan, Ping Ping Goh, Changi General Hospital, Singapore, Singapore, National University of Singapore, Singapore, Singapore

Background: With the ever-increasing number of acutely ill patients with cardiac disease that need intensive monitoring and limited resources in coronary care unit (CCU), there is a need to ensure appropriate admission to CCU. Studies have shown that Killip 1 patients who had successful primary percutaneous coronary intervention (PPCI) for ST Elevation Myocardial Infarction (STEMI) can be admitted safely to a step-down unit. However, Killip class was a subjective assessment. We attempt to compare TIMI risk index (TRI = [heart rate X (age/10)2]/systolic blood pressure) versus Killip Class at presentation in determining the need of admission to CCU for STEMI patient after successful PPCI. TRI was a robust predictor (for STEMI patients on first arrival in hospital) and high discriminatory capacity of in-hospital events in each of the five risk subgroups.

Methods: This is a retrospective study based on PPCI registry from January 2008 till December 2008. Successful PPCI was defined as achieving TIMI 3 flow. Study end point was in-hospital major adverse cardiovascular events (MACE) that include all cause death, cardiac death, target lesion revascularization, recurrent myocardial infarction, stroke, in-stent thrombosis.

Results: A total of 275 patients had STEMI and underwent PPCI. 16 patients were excluded (13 patients did not have heart rate and/or blood pressure documented at presentation and 3 patients had unsuccessful PPCI).

Based on TRI subgroup cut off at 2 and below and Killip cut off at 1, 42.9% (111) of patients were in TRI subgroups 1 and 2 compared to 79.9% (207) in the Killip 1 group. For TRI subgroups 1 and 2, the receiver operating curve (ROC) was 0.73, sensitivity (sen): 100.0, specificity (spec): 45.9, positive predictive value (PPV): 11.5 and negative predictive value (NPV): 100.0 as compared to Killip 1 group’s ROC: 0.77, sen: 70.6, spec: 83.5, PPV: 23.1 and NPV: 97.6. There was no in-hospital MACE in TRI subgroups 1 and 2 as compared to 2.4% in Killip class 1.

Conclusions: TRI may be the preferred tool in predicting patients in particular those in subgroups 1 and 2 who may benefit from immediate step down care after successful PPCI (sen: 100.0, NPV 100.0) as compared to Killip class 1 (sen: 70.6, NPV: 97.6).