Distribution of Heart Rate and Systolic Blood Pressure in Acute Coronary Syndrome: A Study from Registry

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Introduction: Systolic Blood Pressure (SBP) is an independent prognostic factor for in-hospital mortality of patients hospitalized with Acute Coronary Syndrome (ACS). A study showed a 17.8% death rate in SBP<100 mmHg, 3.7% in SBP 100-120 mmHg, 2.9% in SBP 120-140 mmHg, and 2.6% in SBP>140 mmHg p-value<0.001. The best cut-off HR to predict mortality was 80 bpm (sensitivity 64-66% and specificity 54-55%), by multivariate analysis, a heart rate ≥ 80 bpm was an independent predictor of all-cause mortality (HR 1.50, 95% CI: 1.01-2.23, P=0.047).

Methods: A preliminary study of the 75 patients with Acute Coronary Syndrome (ACS) was done in Siloam General Hospital. We measured HR (with cut-off value 80 bpm) and SBP (divided into 4 groups: SBP <100 mmHg, SBP 100-120 mmHg, SBP 121-140 mmHg, and SBP >140 mmHg). Descriptive analysis was performed using SPSS ver. 22.

Result: There were 26 patients (35.2%) with HR <80 bpm and 49 patients (64.8%) with HR ≥80 bpm. Based on SBP group, there were 3 patients (4%) with SBP <100 mmHg, 19 patients (25.3%) with SBP 100 – 120 mmHg, 29 patients (38.7%) with SBP 121 – 140 mmHg, and 24 patients (32%) with SBP >140 mmHg.

Conclusion: About 64.8% patients have HR ≥80 bpm. This number is concerning. Thus, special attention is needed in patient diagnosed with ACS to predict mortality rate. As in SBP measurement, there were 3 patient with SBP <100 mmHg. This account only for 4%, yet routine measurement and specific treatment of SBP is a must to overcome mortality in ACS.